





## LARNACA: The raid that went wrong

## 'A complete collapse of understanding'

BY ROGER MATTHEWS

ANGER, indignation and astonishment at the action of the Cypriot authorities were expressed by Egyptian officials and newspapers to-day following the tragic shoot-out at Larnaca airport last night. The Cypriots turned what had been a humanitarian rescue operation into a violent tragedy, said one senior Foreign Ministry official to-day. The Egyptian commando group had gone to Cyprus with the full knowledge of the President of Cyprus, Mr. Spyros Kyprianou, it was claimed and "we took it for granted that the Cypriots would co-operate fully given that we did inform them, added the official. The main points to have emerged so far in the Egyptian version of events are:

■ The C-130 transport aircraft landed at Larnaca airport at approximately 6 p.m. carrying 60 or more adequately but not heavily armed commandos who had been specially trained for carrying out such operations.

■ The President of Cyprus had personally been informed that the plane was on its way to Larnaca, no objections had been raised and the C-130 was duly given permission to land. Precise details however about the number of men on board and their exact intentions do not appear to have been fully spelled out.

■ For the next two hours the commandos remained in the aircraft on the ground at Larnaca while a detailed study and assessment was carried out of the Cyprus Airways plane in which the two gunmen were holding the 11 hostages and the three-man crew.



Two Palestinians, believed to be the killers of Mr. El Sebat, the Egyptian newspaper editor, are led away. The gunmen are first and third from left.

■ The Egyptians then launched their attack on the aircraft at about 8 p.m. As they opened fire under return fire from Cypriot national guardsmen. Officials here emphasised that it would have been "total outside" to storm the plane if it had been known that the more heavily armed Cypriots would resist. Clearly there was a complete collapse of understanding between the Egyptian and Cypriot authorities, the reasons for which are now slowly becoming clear. After the initial anger and dismay at the murder of Mr. Youssef Sibat, the editor-in-chief

of Cairo's Al-Ahram newspaper, the attack on the aircraft at the Hilton Hotel in Nicosia on Saturday morning, suspicions began to grow that the Cyprus government was not doing all that it might to capture the two killers. This impression was fuelled by television coverage of the events in Nicosia with police apparently standing by unconcerned as the two gunmen were allowed to remove their hostages from the hotel and take them by bus to the airport. These pictures caused a deep impression in Cairo as did the subsequent decision to provide an aircraft for the men to leave the island.

It was then recalled that the security at the Hilton hotel had been rather less than adequate given the potentially vulnerable position of prominent Egyptians who had accompanied President Anwar Sadat to Jerusalem and were generally associated with his peace initiative. After the murder of Mr. Sibat, who was clearly singled out as the only victim of the attack, some of the hostages appear "rather relaxed" to television viewers here.

Given this background, the Egyptian authorities became even more anxious when the aircraft arrived back in Cyprus late on Sunday afternoon to accompanying reports that the Syrian regime had given permission for it to land at Damascus because of "humanitarian considerations." Since Egypt has broken off diplomatic relations with Syria there was a fear that President Hafez al-Assad might state that the two killers were being handed to the Palestinian Liberation Organisation for punishment and then nothing more would be heard.

Egyptian officials said to-day that the decision by the commandos to move in had been taken because no progress toward freeing the hostages was being made in the negotiations between the two terrorists and the Cyprus government. It was feared that an agreement had been reached to allow the aircraft to take off again.

It was stated here that it was thought a rescue operation might be beyond the capabilities of the Cypriots and that they would welcome Egyptian assistance. During the two hours before the attack Egyptian and

Cypriot authorities were said to be in regular contact.

Egyptian anger has also been intensified because they failed to capture the two terrorists from whom they urgently want information about the possible extent of further planned attacks. The Government here will press for extradition but are privately extremely doubtful now whether they will be successful.

The Egyptian Press was meanwhile virulent in its attacks and condemnations. While still suggesting that the commando operation had been successful and that it was Egyptian troops who successfully stormed the aircraft and freed the hostages, the newspapers launched vigorous editorials accusing the Cypriots, the Palestinians and the Syrians. To some papers the whole affair was engineered by the Syrians in collusion with extremist Palestinians and a passive Cyprus Government. Only after the Egyptian commandos had taken off for Larnaca did it become known that a secret deal had been reached between the Ba'athist regime in Damascus and the Cyprus Government to hand over the terrorists to the PLO. "We accuse the Cypriots. We call on all countries in the world to condemn terrorism and not to allow the Cypriots to get away with it," said Al-Akbar.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.



An Egyptian air force Hercules destroyed by Cypriot national guard gunfire at Larnaca airport.

## Egyptian troops not prepared for objections by Cypriots

BY MICHAEL TINGAY AND ANDREAS HADJIPAPAS IN NICOSIA, FEB. 20

THE BLOODY fiasco at Larnaca, including an Egyptian C-130 aircraft which eventually led to the declaration of Egypt's crack anti-terrorist commando unit was not the result of lack of communication between Cypriot and Egyptian officials.

The view here is that it seems to have been caused because those who planned the operation in Cairo gave the Egyptian soldiers no contingency orders anticipating refusal by the Cyprus Government to permit an Egyptian Entebbe-style rescue once the arrival of commandos was a fait accompli.

The raid left 15 Egyptian commandos dead, 16 injured, and 7 Cypriots injured, including 6 soldiers and one civilian, and badly damaged three planes.

members of the Cyprus Government. They were made aware of the successful negotiations for the release of the hostages, but were not told the secret terms and the promise of passports.

Mr. John Christodoulou, Cyprus's Foreign Minister, it is claimed here, told the Ambassador that the Egyptians had "in permission to land with a commando force and no permission to carry out any operations on Cyprus soil." He is said to have warned them that an attempt would almost certainly result in the deaths of the hostages, whose lives had been guaranteed in the Government's negotiations with the gunmen.

The Egyptian military attaché who President Kyprianou subsequently asked Cairo to recall tried to drive in his car to the DCS, but was prevented. He drove instead along to the airport against the wishes of the Cypriot authorities to the C-130 transport plane.

A crucial part of the Cypriot version is that the military attaché and the ambassador were warned more than once that if Egyptian soldiers embarked on an attempt to storm the plane, the national guard would open fire. It was pointed out that they would be violating Cypriot sovereignty and the Egyptians were reminded that Cyprus security forces had the men and the power to mount an attack on the host plane, should the Government so wish.

At this point, a chartered Le Jet of Jordan's Arab Wings Airlines, containing American journalists, landed and taxied to a halt on the tarmac. The attaché reached the Egyptian plane, whose commander promptly sent a jeep down the ramp which sped toward the DCS, firing directly at the cockpit where the four Cypriot politicians were members of the DCS. The Cypriot national guard then opened fire.

During the confusion, Egyptian hostage, Kemal Bah eddin, emerged from the DCS to confront the Egyptian on commander, screaming at him: "I am an Egyptian. Tell you men to cease fire." He then the commander, leader of the Egyptians were on board, in the commander, taking cover under the plane, looked at him astonished and uncomprehending.

The fierce battle that ensued lasted 50 minutes, during which time the DCS was hit by the storm the host plane, regarded as less of President Kyprianou's wishes.

At about the same time, Mr. Lyssarides spoke with the Palestinian gunmen from the ground below the DCS and successfully negotiated the release of the hostages. The terms were kept secret but it has been subsequently learned from a reliable source that two Cypriot passports were being prepared to give to the gunmen, who would later have flown to Athens and not as the Egyptians believe, Damascus.

Four Egyptians, including the Ambassador to Cyprus, the military attaché and two senior officers who had flown to Nicosia after Sibat's murder on Saturday, held heated talks with

the Egyptian Press was meanwhile virulent in its attacks and condemnations. While still suggesting that the commando operation had been successful and that it was Egyptian troops who successfully stormed the aircraft and freed the hostages, the newspapers launched vigorous editorials accusing the Cypriots, the Palestinians and the Syrians. To some papers the whole affair was engineered by the Syrians in collusion with extremist Palestinians and a passive Cyprus Government. Only after the Egyptian commandos had taken off for Larnaca did it become known that a secret deal had been reached between the Ba'athist regime in Damascus and the Cyprus Government to hand over the terrorists to the PLO. "We accuse the Cypriots. We call on all countries in the world to condemn terrorism and not to allow the Cypriots to get away with it," said Al-Akbar.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghaly to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two terrorists.

## New demands in flexibility: for a major Italian bank 1,000 Olivetti terminals. Banks know whom to trust.

### The problem

To further strengthen the management information system and real time network which links the bank's branches and computer centre. To give greater flexibility and speed to all customer transactions and to provide a clear, up-to-date picture of the bank's balance sheet.

### The customer

Banca Commerciale Italiana: with a network of 300 bank offices in Italy and branches in all the financial centres of the world. One of the largest European credit institutions.

### The solution

Utilizing the Olivetti TC800 terminal system to extend and modernize the bank's information system, thus speeding and intensifying the two-way data flow between branches and the computer centre.

### The choice

A special version of the Olivetti TC800 system was chosen for its greater flexibility and adaptability to all types of large data processing and transmission networks, and for its proven reliability and ease of use.

### Companies everywhere are choosing Olivetti systems

Here are the latest world-wide totals: 330,000 accounting machines; 140,000 data processing systems and personal mini-computers; 65,000 terminals and data collection units; 150,000 teleprinters and telecommunications units.

THE INTELLIGENT CHOICE IN DISTRIBUTED PROCESSING

# olivetti

British Olivetti Ltd., 30 Berkeley Square, London W1X 6AH

### OTHER EUROPEAN NEWS

## Mounting apprehension in Lisbon at IMF demands

BY JIMMY BURNS

LISBON, Feb. 20

PORTUGAL'S SECOND constitutional government will discuss the "intrigue" of the IMF economic programme with the opposition parties this week, against a background of mounting apprehension as to the success of the terms that may be imposed when the International Monetary Fund team comes to Lisbon next month.

O Diário, the Communist leading newspaper plans to reproduce to-morrow the full text of the "letter of intent" signed by the Italian government last April, during its negotiations with the IMF. The letter is prefaced in

to-day's edition as a statement of the "intrigue" of the IMF which was "catastrophic" for Italy and led to "growing tensions".

Fears about the coming negotiations with the IMF were voiced over the weekend by Antonio Sousa, leader of the Social Democratic (PSD) party.

St. Sousa Franco, himself an economist, declared in a radio policy speech that the Government was in danger of "sacrificing Portugal to foreign interests".

## Swiss franc value rises

BY JOHN WICKS

ZURICH, Feb. 20

THE SWISS franc showed a new leap against all other currencies to-day. Trade-weighted appreciation, expressed as the growth of the exchange rate against a 15-currency basket, rose by more than 2.5 points over Friday's level to 99.9 percent. This means the value of the Swiss franc has almost doubled for major trading partners since the currency basket was started just over six years ago.

In fact, the increase was even greater than this figure indicates, since the trade-weighted appreciation is calculated by the Bank Corporation early in the day. Rates of other currencies, however, were unchanged. Zurich, the dollar hitting a level of 2.20 Swiss francs, before strengthening slightly to 2.21. The closing Sterling and Deutsche marks also rose, the first by 0.5 percent and the second by 0.3 percent, respectively. The Swiss National Bank is said to be intervened heavily to-day.

مكتبة المصطفى



## EUROPEAN NEWS

Left-wing parties open poll  
ce by trading salvos

DAVID CURRY

PARIS, Feb. 20.

RENCH general election is officially opened today, as perhaps the third most important election of the Frenchman over the next few years.

First is undoubtedly the short head behind the prospects for the Wales rugby match at Arms Park one day after the first round of voting (which could give the grand slam).

ver, climate and Cardiff Park apart, the election is the consuming at least of the media. The candidates' lists over-land was marked by a ute rush of hopefuls now that since 1973 the in candidate has nately kept pace with the money.

he 474 seats in France here are 4,250 candidates from the main parties in rights, the union of iers for common sense, gists, and a handful of For Paris alone, there 487 hopefuls for 31 on-est.

st target for them all is y for the second round of the eligible vote in stituency which trans- o a good 18, or 17 per the actual votes cast.

surviving the elimina- the right to go through al round which is won ight majority.

cky few will win 50 per the votes cast in their

THE  
FRENCH  
ELECTIONS

front at the first round, but the Gaullist romped home at the second, and the Communist Party has made no secret of the fact that it blames the result on the desertion of the Socialists to the enemy.

The Socialist Party, which has the singular distinction of being under simultaneous attack from the parties of the Right for being collectivist and from the Communists for being fellow-travelling capitalists, has shrugged off the latest onslaught.

M. Francois Mitterrand continues to hammer home the necessity for the parties of the Left to allow a free run in the second round to whichever of

their candidates does best in the first. The Communists still press for an inter-round deal as a condition for such mutual abstention.

On the side of the majority, a sort of grumbling peace has broken out, though it is reported that President Giscard d'Estaing is irritated at the refusal of M. Raymond Barre, the Prime Minister, to place himself unequivocally at the head of the centrist faction in opposition to the Gaullists.

In Paris, the main Socialist poster is showing M. Mitterrand declaring victory through the ballot box. Near the Madeleine it has got juxtaposed with a poster advertising Emmanuelle 2 with the words "If you think you've seen it all you have only seen half," a comment the majority would no doubt apply to the common programme.

The Republicans call themselves the party of the right choice, above a poster showing a misty landscape of fields or rooftops illuminated by a tricolour rainbow no doubt representing the light cast by Chairman Giscard's thoughts.

The Gaullists are made of more fighting spirit: their giant meeting was advertised by one of the sculptures on the Arc de Triomphe showing an embattled goddess racing off to war with sword and chariot.

All this paper is costly, but for those who win 5 per cent of the votes cast, the cost of paper and printing and propaganda will be reimbursed by the State.

IG-Metall  
talks near  
deadlock

By Adrian Dicks

BONN, Feb. 20.

WAGE NEGOTIATIONS in the West German engineering and metal fabricating industries were reported today to be close to deadlock in five of the main bargaining regions into which the country is divided.

But as the psychological pressure on both the employers and the union, IG-Metall, built up further, there were still hopes that the two sides could reach agreement without the widespread strike action which the union leaders have been under some internal pressure to take.

The employers, who have been offering between 3 and 3.5 per cent, are reported to feel that some of the ground has been cut from under their feet by the wage deal reached last week in the steel industry, which was formally ratified by the IG-Metall Steel Bargaining Council today.

This deal gives workers approximately 4 per cent. The union may now argue that if the hard-pressed steel companies can afford an increase in wages of that order, the engineering industry ought to be able to put at least a "five before the decimal point."

At least as important as the final pay deal for the IG-Metall bargainers, however, is the union's attempt to include in this year's contract provisions for job protection and for the maintenance of present wage classifications.

Meanwhile an uneasy lull continued today in the printing sector. IG-Druck, the printers' union, had given 100-odd newspaper, magazine and general printing houses until tomorrow to reply to its offer of house negotiations, pending the resumption of national talks on wages and on the introduction of new technology.

Late today, the Employers' Federations made clear that they had successfully insisted that their members turn down the offer.

Honecker complains about  
Comecon industrial policy

BY LESLIE COLTIT

EAST GERMANY'S leader, Herr Honecker, has issued a rare public complaint over Comecon's policy of industrial specialisation, which has narrowed the range of products made in East Germany.

The Communist Party chief and head of State seldom wavers from the Russian line on any issue. It has taken a matter of vital economic importance to bring his criticism into the open.

"Nobody has the right to halt production of GDR (East German) goods," Herr Honecker has told East German Communist Party officials, "until the products we have to import have machinery traded within Comecon while the figure is now country, and as long as commercial import agreement and planned deliveries have not been guaranteed."

He noted that "proposals were made and carried out which caused gaps in supplies to the



Herr Erich Honecker

Move to  
make bland  
conclusion  
in Belgrade

Switzerland yesterday proposed that the European Security Conference in Belgrade should end without a substantial final declaration. Rouse reports from the grade. Speaking at a plenary session of the 35-nation gathering, the chief Swiss delegate, Mr. Edouard Brunner, said that diplomats should be realistic in this final stage. It was unrealistic to seek a substantial final document or declaration, because there was no prospect of its being accepted by the Soviet bloc, he said. His statement reflected the privately expressed views of many western and neutral delegations.

The Soviet chief delegate, Mr. Yuli Voronov, yesterday reiterated that Moscow would not accept proposals by the western, neutral and non-aligned countries which went deeply into sensitive questions. These include humanitarian issues, east-west exchanges of information, and a thorough evaluation of progress since the 1975 Helsinki accord.

Meanwhile in Vienna, a British Foreign Office Minister, Mr. Frank Judd said yesterday that Britain wants the conference to end with a meaningful statement on human rights. "We would be very unhappy to see meaningless wording which deviates from the concept of security," he said.

Conference on brink, page 10

## Polish censorship

Senior Polish officials here have admitted that censorship restrictions may be excessive, and have promised that criticism of present censorship policies will be answered. Christopher Bobinski writes from Warsaw. The statement by the Culture Vice-Minister, Mr. Janusz Wilhelm, came in response to a recent protest against censorship sent to the Polish Premier, Mr. Piotr Jaroszewicz, by the Polish PEN club of writers, and was made last week at a meeting of the heads of unions of artists and writers. Mr. Wilhelm told the meeting of a proposal to set up under the auspices of the Culture Ministry a committee made up of writers and politicians which would act as a kind of appeal tribunal for censorship grievances.

## nions seek common ground

AVID WHITE

PARIS, Feb. 20.

COMMUNIST leaders of the largest French trade union, the Communist Party (CFTD), have set out on a campaign to common ground with the largest union, the CFTC, in the parliamentary elections. The sign of rapprochement between the parties of the left is a sign of the new CGT leader and a Communist Committee to last year the Communist Party has moved nearer the CFTD's line on worker participation in management, which has been a good deal more

forceful than that of the CGT. However, the CFTD has shown little sign of reciprocating. M. Edmond Maire, the CFTD leader, has somewhat undermined Seguy's picture of "a very important rapprochement" by violently criticising the CGT chief for wearing his Communist Party hat at the same time as his union hat and telling members how to vote.

The CGT has lost ground to more moderate group in recent company union elections in Paris. Observers believe that this may reflect rank-and-file dissent with M. Seguy's party line.

## ISH ENTRY TO EEC

## adrid chooses a mediator

BY ROBERT GRAHAM IN MADRID

EATION of a new designed to deal Spain's entry into the Market coincided with the visit here last of Lorenzo Natali, the president whose job is to revise the Community's new minister, Sr. Calvo Sotelo, in the of office was able to himself thoroughly broad lines of Community at the outset. Sr. Calvo Sotelo is the limit that the Spanish nt's approach to negoti- the EEC is in its

ow the Government's ern has been to con- Community of its poli- ticals as democratic d to ensure that dem- itions in Spain are ted. Now that this well advanced Prime Adolfo Suarez has what could be con- second phase—estab- institutional frame- which to begin

the change is sym- the building in which ministry has been t is a grand mansion rock moorish style in 1900s that latterly was decreasing frequency, occasion by the

the all-embracing union structure. Sr. lo has his office and nire furniture and d outside a much garden. The national Framework government is now set- ll take several months. Sr. Calvo Sotelo, a Minister in the first nted government, has ent two secretaries- e is still waiting to be budget. coming months he build up a small secretariat drawn from sting ministries. This s his first task. In al terms he sees the levels—that of nego- h the community and

better coordination of the various ministries. Sr. Calvo Sotelo will report direct to the Prime Minister.

At this stage the Inter-Ministerial Coordinating Committee, announced at the time of the new appointment, appears more of a formal device to keep the various ministries happy. It is regarded as too cumbersome to be a dynamic body.

In choosing Sr. Calvo Sotelo, Sr. Suarez has selected a man with substantial political weight in his own right. A nephew of Calvo Sotelo the rightist politician assassinated in Madrid in 1936, the new Minister has extensive experience of private business as well as government.

Last April he resigned as Minister of Public Works to organise the loose grouping of right and centre-right parties to form the UCD that won the elections. His skill in bringing together various disparate groupings is said to have played an important part in the election victory of Sr. Suarez.

Subsequently he had headed the group of UCD deputies in parliament. Though his past experience of the commerce Ministry has given him an understanding of the intricacies of trade negotiation, Sotelo sees his appointment as primarily a political move, not a technical one.

Sr. Calvo Sotelo expects to see little real movement until the community has finished preparation of the "Avis" on Spanish entry. Sr. Natali said here that this could take up to another year to complete. Since both Portugal and Greece applied to join the Community earlier, the Community secretariat is already more advanced in dealing with these applications. Sr. Natali is understood to have told the Spanish authorities. Portugal's "Avis," for instance, should be ready by April.

Both the Spanish authorities and Community officials admit in private that they still have a good deal to learn about each other, in good measure because until now views have been exchanged on an ad hoc basis. The Community for its part hopes to open an office in Madrid within the next two months.

## U backs Canaries independence

OWN CORRESPONDENT

MADRID, Feb. 20.

DIPLOMATIC efforts Spanish Government, the Committee has been pressing for the OAU to support MPALAC. However, this is the first time has decided to press determined support for resolution. The committee consists of Algeria, Guinea (Conakry), Libya, Nigeria and Senegal.

Almost a month ago, the King's father, Don Juan, was sent on a private mission to Tripoli to discuss with the Libyan authorities the question of their support for MPALAC, hoping that the Libyan leadership could be persuaded to play down the issue of the Canaries.

At the same time, the Socialist Party leader, Sr. Felipe Gonzalez, visited Algiers to try to talk the Algerian Government into curbing its support for the MPALAC, a particular halting radio broadcasts beamed to the Canaries from Algeria in the name of MPALAC.

This action by the OAU is bound to complicate Spain's relations with Algeria and Libya—sent on a private mission to Tripoli to discuss with the Libyan authorities the question of their support for MPALAC, hoping that the Libyan leadership could be persuaded to play down the issue of the Canaries.

## Midland in Spain.

In recognition of the growing importance of Spain in world trade and investment Midland Bank now has a Group Representative Office in Madrid.

This office will provide a vital point of contact for businessmen throughout Spain who are seeking to develop their international business. It will also offer assistance to customers outside Spain by drawing on the world-wide experience of Midland Bank Group.

Mr John Burgess,  
Group Representative in Spain.

Contact John Burgess, our Group Representative in Spain, at 45 Serrano, Madrid 1. Tel: 276 80 78. Telex 42405. Or in London talk to Geoffrey Micklem, Senior Executive, European Area, on 01-606 9944 ext. 5201 (Telex 888401) or any branch of the Midland Bank.



Midland Bank International

Midland Bank Limited, International Division, 60 Gracechurch Street, London EC3P 3BN. Tel: 01-606 9944



## OVERSEAS NEWS

## U.K. must adjust to new role, says Judd

By David Housego

BRITAIN would have to leave many of her traditional industries to the third world and concentrate on those which had a high input of skills, Mr. Frank Judd, Minister of State in the Foreign Office, said in Vienna yesterday.

He declared that such redeployment across national boundaries was necessary, though adjustment by Britain to a new economic role was not easy. Heavy import controls or drastic cuts in overseas aid, he believed, were very short-term answers.

Mr. Judd declared that it would become increasingly necessary for industrialised nations to come to terms with a number of the third world's objectives even if there were doubts about the specific mechanisms proposed. Unless this change of heart took place, the criticism made by the West of such mechanisms would inevitably be treated as delaying tactics and incur contempt.

In remarks seemingly aimed at displacing Britain's image as one of the "hawks" among industrialised nations, Mr. Judd said that it might have to be accepted that a blurring of the traditional divisions between primary producers and industrialised nations would call for changes in international institutions.

## Kuwait talks on plant

By Richard Johns

NEGOTIATIONS BEGAN at the weekend between the Kuwait Government and some 20 potential customers for the output of the state-owned \$1.2bn. Natural Gas Liquids plant, which is scheduled to come on stream in the second half of this year.

A number of potential customers, particularly from Japan, are said by Kuwait officials to have expressed keen interest in purchasing the output. But talks are taking place since some uncertainty as to exactly how much propane, butane and natural gasolene there will be for sale.

Total design capacity of the three identical units is put at 10.1m. barrels a day of propane, 55m. b/d of butane and 41m. b/d of natural gasolene.

Among the companies negotiating are reported to be Gulf, Shell, Continental, Phillips Petroleum, Northern Liquid Fuels, Texas Eastern, Bridgepoint, Idemitsu Kosan, Kyodo, Maruzen, Mitsubishi, and Marubeni.

## PAKISTAN FACES LENGTHY MILITARY RULE

## Army politics and Mr. Bhutto remain the keys to the future

By David Housego, recently in Pakistan

FOR THOSE who lived through the rioting last year that turned many of Pakistan's major cities into ugly battlefields, there is now at least the comforting relief of returning to the familiar landmarks of daily routine.

Schools and universities have reopened, families at weekend picnics in the public gardens that the army used for so long as a bivouac for troops and tanks, shopkeepers no longer live in fear of demonstrators hurling stones through their windows, factories are back at work—though jobs are fewer because employers have laid off surplus labour.

But beyond this immediate sense of stability is the foreboding that the country is in for another protracted period of military rule, making an even deeper crisis than before the army took over in July. The most visible reminder of the failure to resolve the continuing divisions is the cordon of armed guards around the Lahore High Court where Mr. Bhutto, the deposed Prime Minister, is on trial for murder—a charge that makes him liable to hanging.

The guards are necessary, because Mr. Bhutto for all his many warts, is still the tallest politician in the two main provinces of the Punjab and Sind and the likely victor of any new electoral contest. The army cannot risk his return to power because they fear retaliation against those who overthrew him.

Thus any re-run of the March 1977 general election—the way of deciding whether Mr. Bhutto's Peoples Party or some grouping of the rival Pakistan National Alliance should run the country—is for the moment unthinkable. The only politics that matters is the manoeuvring within the army.

In this uneasy situation, the business community is holding back from investment. Better rice and cotton crops this year with some pick-up in manufacturing production after the chaotic last year mean that the economy is likely to register what appears on paper as an impressive growth rate of 6 per cent. for fiscal 1977/78.

In practice the country teeters on the edge of insolvency with the current account deficit expected to widen a further 8 per cent. to \$1.1bn. and the budget deficit rising as well—largely because Mr. Bhutto would over-spend while looking to his creditors to keep his government afloat.

## Japan signals resumption of talks on China treaty

By Charles Smith, Far East Editor

TOKYO, Feb. 20

JAPAN'S ambassador in Peking has been instructed to prepare for an early resumption of negotiations on a treaty of peace and friendship with China, Mr. Takeo Fukuda, the Prime Minister, said today.

This is the first on-the-record official indication that Japan expects to sign the long-pending treaty some time in the fairly near future. Negotiations have been suspended since soon after they began in spring 1975 ostensibly because of disagreement about the "anti-hegemony" clause China wants to include.

This would commit both signatories to oppose attempts by third countries to establish hegemony in the region (intended by China as a dig at the Soviet Union).

Another, at least equally serious obstacle has been opposition to the treaty by the Taiwan lobby within Japan's ruling Liberal Democratic party. Mr. Fukuda's statement today came after a week-end of consultations with pro- and anti-Taiwan sectors of the Liberal

Democratic party, an indication that he may at last have achieved a political consensus on the treaty issue.

The Japanese ambassador in Peking, Mr. Shoji Sato, met China's Vice-Foreign Minister, Mr. Han Nien-Lung, last Tuesday to discuss the prospects for reopening the treaty negotiations and apparently found the Chinese and Japanese positions on the anti-hegemony clause not too far apart for fruitful negotiations.

The next steps in preparing for negotiations will involve further meetings between Mr. Sato and Vice-Minister Han, after which there is a possibility of a visit to Peking by Japan's Foreign Minister, Mr. Sunao Sonoda. It is not clear yet whether the signing ceremony will take place in Tokyo or Peking, but it is known that Mr. Fukuda would like to visit China either at or after the treaty signing.

The news that treaty talks are likely to go ahead soon follows a day or two after the signing, in Peking last week, of an 8-

year \$20bn. trade agreement between China and Japan. The trade pact and the treaty together would seem to provide the basis for a considerably closer Peking-Tokyo relationship than has existed up to now. This has implications for Japan's relationship with the Soviet Union which has remained stalled over the past few years.

Discussions on joint development of Siberian resources have yielded only meagre results, while negotiations on a Sino-Japanese peace treaty have been blocked by the Soviet refusal to discuss Japan's claim to four small islands off the north coast of Hokkaido.

In pressing forward with the China agreements Japan has continued to claim that it is impartial in the Sino-Soviet dispute and wishes to be equally friendly to both countries. The real state of affairs would seem to be that a special relationship is developing with China while relations with Russia grow steadily cooler.

## Bill will abolish 'Gandhi distortions'

By K. K. Sharma

NEW DELHI, Feb. 20

THE INDIAN Government plans to "abolish the distortions" in the constitution introduced by Mrs. Indira Gandhi. This will be done through a bill to be passed in the budget session of parliament, which began today, following a heated discussion with opposition parties, including the Congress.

This was announced today by the Indian President, Mr. N. Sanjay Reddy, in his opening address to both houses of parliament. He said that there was "in particular, a need to build bulwarks against any possible future bid to use the constitution to negate and subvert the basic principles of democracy."

There have been continuing doubts as to whether the Government would fulfil its election pledge to remove the "distortions" to the constitution introduced by Mrs. Gandhi.

Mr. Reddy also announced the government's intention to repeal the notorious Maintenance of Internal Security Act (MISA) under which thousands were detained without trial by Mrs. Gandhi. But he indicated that some kind of preventive detention is to be provided for, which means the government has re-

jected the widespread demand for total abolition of such draconian powers.

The President pointed to many positive aspects of the Indian economy including the 5 per cent. growth rate achieved in 1977-78 compared to 2 per cent. in the previous year. Agricultural production had made up lost ground and food grain production during the year was expected to be more than 115m. tonnes. Inflation has been checked and prevailing prices are no higher than in March, 1977, Mr. Reddy said.

He announced the government's decision to reorient the strategy of development by terminating the fifth five-year plan a year in advance and launching the sixth plan from April, 1978, in accordance with the government's policies.

The primary objectives would be the removal of unemployment and substantial underemployment in the shortest possible time, increasing the availability of basic goods and services to the people in the lowest income groups in the same period, a significant reduction in disparities of income and wealth and steady progress towards technical self-reliance, the President said.

## Soweto schools boycott relaxes

By Quentin Peel

JOHANNESBURG, Feb. 20

THOUSANDS of Soweto schoolchildren who were staying away from school in protest against the system of segregated education in South Africa have now registered to return. It was claimed today that a majority of the township's secondary schools have now reopened since the boycott which began last July has petered out. The Director of Education for Soweto, Mr. Jaap Strydom, said.

The return of the schoolchildren still brings the level of pupils in secondary schools nowhere near the 27,000 attended last year, but it is in marked contrast to the successful boycott of the Government's community council elections which took place at the weekend, and in which 492 voters turned out.

Police in the township also report a much lower level of disturbances from idle children, as many are now either back in school, or have been sent to boarding schools in their tribal homelands, or have gone to look for work in Johannesburg.



Gen. Zia-ul-Haq

to lower production costs. Both measures hit hardest at the peasants and urban workers who are the backbone of Mr. Bhutto's support.

More important than these immediate political and economic difficulties is the humiliating sense of national failure—surviving in a streak of populist militancy and defiance for the fourth time since independence the country has drifted into military rule because of an inability to resolve a political deadlock. As on such occasions in the past there is a turning back to Islam as the one common factor uniting a nation that otherwise seems unsure of its identity.

This time, however, regrets that Pakistan has not followed the Islamic precepts on which it was founded have been accompanied by a frenetic determination to put them into practice by making them the basis of the law, enforcing prohibition and drawing closer to Saudi Arabia and the other Islamic states.

The backlash, worrying to some, has swept away the secularism that Mr. Bhutto tried quickly to press in the new revolution. Indeed, the army, which has traditionally projected itself as the guardian of the Islamic heritage, seems to feel an opportunity to reclaim its reputation and wipe out the disgrace of the surrender of 99,000 Pakistani troops to India after the fall of Dhaka in 1971.

It is among the army officers that there are the few signs of confidence about the present situation. General Zia-ul-Haq, who presides over the regime as Chief Martial Law Administrator (CMLA) has a soldier's honesty and faith that from good intentions, good will flow. He believes that once he has removed the "dirt" from political life—including Mr. Bhutto, many of his former colleagues and a lot of the opposition too—worthy men will arise to compete for office in a new election. Politics does not work with that simplicity in other nations, and is certainly unlikely to in Pakistan.

Though only faint echoes of the disputes within the army are heard outside, it does seem that a powerful group of officers feel this view is naive, and that the military would do better fully running the show themselves rather than trusting in politicians who have let them down before. A smaller group, however, feels that the army should pull back to barracks.

So far General Zia has continued these rivalries—including personal jealousies—at his own peril. Though he has a remarkable skill in the unpopular task of reshaping his senior command—his public performance he often comes across as a buffoon. This

is partly because of the frequency with which he has been asked to resign, and the fact that the CMLA stands for "Contrary to my last announcement" common coin among his headquarters staff in Rawalpindi. General Zia has scant respect for senior politicians of the Peoples Party and the PNA, saying that he finds them "largely ignorant and ill-informed." The politicians do not have much faith in him. Wali Khan, the Pathan leader and the only figure of stature beside Mr. Bhutto, is giving tacit support to the military, but mainly in the hope that they will destroy Mr. Bhutto for whom he has a deep personal antipathy, once and for all.

Air Marshal Asghar Khan, once the effective leader of the PNA and now running his own party, sees the army standing between him and the premiership. Mufti Mahmood, the president of the PNA, is quietly helping to discredit the military leadership by implying that General Zia is ready for some deal with India.

Even in the still eye of the storm remains Mr. Bhutto, who can claim to have brought down three Pakistani regimes—President Ayub, General Yahya's and his own—and now threatens the present one. General Zia's hope that under the weight of charges being levelled against him over corruption and the misuse of power, Mr. Bhutto's popularity will vanish into thin air.

So far Mr. Bhutto has obstinately refused to resign. The power implicit in the way that he still holds over the Punjab and Sind makes the army and his political opponents all the more determined to put him away.

Removing Mr. Bhutto from public life however is not the same as ridding the country of Bhuttoism, any more than the removal of General Peron laid low the ghost of Peronism. The millions in Pakistan he has won over have been too numerous for the one leader he has ousted. Because of the blow to the army's prestige if he was acquitted—even though the trial originated as a private case—the pressures on the court are inevitably great. On the other hand it is hard to envisage that the army would take all the risk of having him go if that was the verdict.

But what to do with Mr. Bhutto

## Argentina, Chile set up talks on dispute

By Robert Lindley

SANTIAGO, Feb. 20

THE POSSIBILITY of armed conflict between Chile and Argentina over the dispute about the Beagle Channel boundary near Cape Horn may have been averted today when the Chilean President, Gen. Augusto Pinochet, and the Argentine President, Gen. Jorge Rafael Videla, met at Puerto Montt in southern Chile, and signed a document establishing a system of prolonged negotiations.

Since the first summit meeting on the dispute between the two Generals was held at Montevideo, Argentina, the arbitration decision by the British Crown, handed down in April, has been rejected by Argentina. The Buenos Aires Government maintained that the arbitration court had not interpreted the Argentine case properly, had exceeded its brief, had contradicted itself, had committed geographical and political errors and, in general, had acted unjustly.

Since the Mendoza meeting there have been troop and fleet manoeuvres, especially by Argentina, which claimed unconsciously that they were routine. The document signed by Presidents Pinochet and Videla today at Puerto Montt calls for negotiations in three stages. In the first stage of 45 days, it is foreseen that both Governments will name members to a committee which will propose measures to promote conditions for harmony in the Beagle Channel area.

In the second stage, it is calculated that another Chilean-Argentine committee will propose guidelines to delineate maritime space in the area, and will suggest ideas for Chilean-Argentine co-operation in exploiting the natural resources of the area, and also in Antarctica.

It is provided that in the third stage, the negotiators will make proposals to the two Governments so that they may determine ways of instrumenting agreements.

## USSR will go on launching N-satellites

By David Bell

WASHINGTON, Feb. 20

THE Soviet Union has told the United States that it plans to continue to launch atomic-powered satellites but that it will take steps to destroy them in the future if they begin to malfunction.

Mr. Vyacheslav Federov, a Soviet scientist who visited Washington last week to attend a conference on climate, made this clear in an interview published in today's Washington Post. He said that two new types of atomic-powered satellites are currently under development by Soviet scientists.

The first would transmit Soviet radio and television programmes from the other side of the Soviet Union to the other while the second would carry special radar to track storms. Both would have atomic power plants which Mr. Federov said, are the only feasible way of providing the large amounts of electricity needed to run them.

While Mr. Federov appeared thus to reject President Carter's call last month for a possible total prohibition of atomic-powered satellites, he conceded that the recent incident involving Cosmos 954, which fell to earth unexpectedly on January 24, did have "lessons" that could be learned.

In the future, he said, such satellites could be equipped with electronic devices that could be defused in case of trouble or with back-up engines that could be used to thrust them into higher orbits where they would stay for hundreds of years.

Meanwhile, he went on, the Soviet Union fully accepted its obligation under international law to pay for whatever damage may have been done to Canada by the Cosmos crash. Both the United States and the Soviet Union had nuclear-powered ships and operated aircraft which carried nuclear weapons. On several occasions U.S. aircraft had dropped nuclear weapons by accident, but there had been relatively little fuss about it.

## Bahamas move on investment

By Nicki Kelly

NASSAU, Feb. 20

THE BAHAMIAN Prime Minister, Mr. Lynden Pindling, has announced a major reorganisation of cabinet and civil service responsibilities to eliminate the frustrating and overlapping responsibilities which have previously impeded foreign and Bahamian investors.

A five-member cabinet sub-committee, headed by the Prime Minister, has been formed to evaluate all major economic proposals and to report regularly. Government economic policies will be decided by the Bahamas Economic Committee, comprising five senior public officials from leading sectors of the economy, has been established to advise on the technical feasibility of new public and private economic projects, and on the most efficient means of implementing national economic policy decisions and approved private projects.

## ONE MAN'S COAL STRIKE Legacy of history is root of miners' determination

By Stewart Fleming in Danville, West Virginia, Feb. 20

DANVILLE, W. Virginia, Feb. 20 HE SAT down in the next seat as the plane was leaving Charleston, West Virginia. It turned out that three years ago he had bought a coalmine, a small one, 300-or-so miners and \$7m. of investment.

A graduate of a top university on the east coast in his early 30s, casually dressed in a crew-neck sweater and cord trousers, he had studied peasant economies at college. It came in handy now that he was working with Appalachian miners. He remarked with a smile:

In a few weeks I'll have to get the security guards and sub-machine guns in again. The tone was so matter-of-fact that it took a minute to sink in. His mine was non-union. It had been closed by United Mine-workers union (UMW) pickets. But now the two-month coal strike was threatening the business's survival. He had to get the coal moving again quickly and as in the widest UMW strikes of July and August of last year, the only way to do it was to be ready to meet violence with violence. To call in what union men still call "company goons" to try and keep the non-union mines working.

Beecher White is a miner. He has been a miner all his life and because I was from England he told me his wife drinks tea. Perhaps in Danville, West Virginia, you have to be a little bit eccentric to drink tea with a dozen or so of his colleagues in a dusty and drab little office which is the United Mineworkers of America, Sub-District 2, District 10 headquarters in Danville, about 40 miles from Charleston, deep in the hills, just a few hours' drive and a railroad with Chesapeake railway system's 100-or-so empty coal cars waiting patiently for the strike to end.

There are no non-union mines in Boone county, the group, agreed, and there was no miking the pride or the menace in their voices. There are no non-union railways ready to take a chance and move them while the strike is on.

Beecher has an immutable mistrust of West Virginia's governor, although he would surely walk past him in the street without a flicker of recognition. On April 20, 1914, 1,000 miles and an epoch away, Ludlow, Colorado, local militiamen opened fire on a tented village of miners' families at the Colorado Fuel and Iron Company. It was a bloody, day-long battle, women and children, and injured coalmen as well.

Last week, Beecher White remembered Ludlow although he was not even born then. The mine was a J. D. Rockefeller interest and the oil baron's great-grandson Jay Rockefeller is West Virginia's governor. I went to West Virginia to try to find out how after two months on strike without wages or union strike funds, the miners were surviving and how much longer they could last out. These same miners had only just finished a 10-week strike in July and August last year. So far four of the past 10 months, they had not worked.

Normally, a good miner will earn some \$16,000 a year at a UMW pit. But the answer to the question is not just to be found in wage slips. There is much criticism of the UMW miners these days, particularly those in isolated districts like Appalachia. They are, you will be told, living in another age when it was difficult to move out of one of these narrow valleys to a job because mining was all there was in West Virginia.

As the mine-owner remarked during our flight, that has changed now. The days when miners were as he put it, "more than slaves taking their wages and handing them back to the mine-owner at the company's store and living in a house owned by the company, are gone.

Today's miners can move to another town or another employer if he does not like the one he has got because coal in Appalachia is booming again. Even today as the strike continues, major companies are opening three or four mines which will eventually employ over 1,000 miners each in the region around Danville.

The stream of history is shallow across much of America but here in coal country where grandfather, father and son have followed each other into the mines, it runs slowly. Legend and tradition account for much of the miners' stubbornness and if legend has created an illusion, it is not a bad one.

THE UNITED Mine Workers' union announced yesterday that it had reached a tentative wage agreement with the Gulf Oil subsidiary, Pittsburgh and Midway Coal (P and M). This raised hopes of a breakthrough in the 76-day old U.S. coal strike, our New York correspondent wrote.

It was not a member of the Bituminous Coal Operators' Association, which represents most of the major coal companies in dispute with the union. But it is hoped that the easier contract terms agreed by P and M will encourage the Bituminous Coal Operators' Association to accept a similar offer, and that would remove what is seen as the biggest obstacle to a settlement. A new contract for all UMW pits would still have to be ratified by the 160,000 UMW members.

Although he had no official part in this, Mr. Boyle said, his part in that matter was to appeal to the miners' sense of justice. Perhaps a month ago, the miners would have voted for the contract now on the table. But today, miners' enemies in the bargaining council, say, in the dispute an opportunity has been lost. The problem is where is that new leadership to come from?

In the meantime, the rank-and-file see the tide of events moving in their favour as they watch their televisions at night across parts of Indiana and arm-guards to try to ease the imminent power shortages facing industrial regions.

For their day to day needs the miners have the Government's food stamp programme which provides adequate sustenance, their own voluntary sales force ensure that, as Jim Doyle of Sub-District 2, says, it is working or retired miners have gone without heat. In the past few weeks, Federal tax refunds of between \$1,000 and \$2,000 a man are coming through to ease the financial strain.

In many villages, like Danville, the merchants too know where the bread is buttered. Mr. Doyle, who is Danville's mayor, said the Bank of Danville, which has \$30m. in assets, says half the bank loan is overdue. But why fear close, who is there to sell the assets? Miners are virtual the only working people in town so to-day's strikers are the famous labour unions. Beecher

White says: "On a scale of one to 10, wages come about five. To-day's miners are well paid. Thus, the room agrees that the \$100 being offered to miners is a 'bonus' when they go back to the mine is a bribe to get their votes for the contract. So the lost instead of the decision, is the loss of the union's health and welfare funds which since the late 1940s have provided members of the UMW with universal free medical care and they are the thin end of the wedge. The funds are under the terms of the current offer to be handed over to the company to run the benefits guaranteed. In return for this guarantee, the coal companies want labour peace."

But Howard Green, vice-president of the company-operated health and welfare funds, the proprietors for the next summer negotiations which will not be between the union and the company, but between the company and the coal companies. The contract, says, is designed to spell the end of the union.

There are other elements in the contract, of course, which the miners dislike and distrust. But the coal companies believe the industry does have the world's unofficial strike and absolute record in the country with almost one-fifth of working time lost last year. Many non-union mines are more productive. They do pay higher wages and offer many coal better fringe benefits. The coal companies and some companies like Occidental and Continental and steel companies like U.S. Steel that own the mines are right too, when they say that the leadership of the UMW, under Arnold Miller is rudderless.

The union has failed to adjust from the autonomy from John Lewis, the bushy eyebrows hobo of organised labour who created the UMW, to the democratic processes which followed the assassination in 1969 of Joe Yablonski as he was trying to wrest the presidency of the UMW from Lewis's successor, Tom Boyle. Boyle went in for his part in that matter although he is appealing for conviction.

Perhaps a month ago, the miners would have voted for the contract now on the table. But today, miners' enemies in the bargaining council, say, in the dispute an opportunity has been lost. The problem is where is that new leadership to come from?

In the meantime, the rank-and-file see the tide of events moving in their favour as they watch their televisions at night across parts of Indiana and arm-guards to try to ease the imminent power shortages facing industrial regions.

For their day to day needs the miners have the Government's food stamp programme which provides adequate sustenance, their own voluntary sales force ensure that, as Jim Doyle of Sub-District 2, says, it is working or retired miners have gone without heat. In the past few weeks, Federal tax refunds of between \$1,000 and \$2,000 a man are coming through to ease the financial strain.

In many villages, like Danville, the merchants too know where the bread is buttered. Mr. Doyle, who is Danville's mayor, said the Bank of Danville, which has \$30m. in assets, says half the bank loan is overdue. But why fear close, who is there to sell the assets? Miners are virtual the only working people in town so to-day's strikers are the famous labour unions. Beecher

White says: "On a scale of one to 10, wages come about five. To-day's miners are well paid. Thus, the room agrees that the \$100 being offered to miners is a 'bonus' when they go back to the mine is a bribe to get their votes for the contract. So the lost instead of the decision, is the loss of the union's health and welfare funds which since the late 1940s have provided members of the UMW with universal free medical care and they are the thin end of the wedge. The funds are under the terms of the current offer to be handed over to the company to run the benefits guaranteed. In return for this guarantee, the coal companies want labour peace."

But Howard Green, vice-president of the company-operated health and welfare funds, the proprietors for the next summer negotiations which will not be between the union and the company, but between the company and the coal companies. The contract, says, is designed to spell the end of the union.

There are other elements in the contract, of course, which the miners dislike and distrust. But the coal companies believe the industry does have the world's unofficial strike and absolute record in the country with almost one-fifth of working time lost last year. Many non-union mines are more productive. They do pay higher wages and offer many coal better fringe benefits. The coal companies and some companies like Occidental and Continental and steel companies like U.S. Steel that own the mines are right too, when they say that the leadership of the UMW, under Arnold Miller is rudderless.

The union has failed to adjust from the autonomy from John Lewis, the bushy eyebrows hobo of organised labour who created the UMW, to the democratic processes which followed the assassination in 1969 of Joe Yablonski as he was trying to wrest the presidency of the UMW from Lewis's successor, Tom Boyle. Boyle went in for his part in that matter although he is appealing for conviction.

Perhaps a month ago, the miners would have voted for the contract now on the table. But today, miners' enemies in the bargaining council, say, in the dispute an opportunity has been lost. The problem is where is that new leadership to come from?

In the meantime, the rank-and-file see the tide of events moving in their favour as they watch their televisions at night across parts of Indiana and arm-guards to try to ease the imminent power shortages facing industrial regions.

For their day to day needs the miners have the Government's food stamp programme which provides adequate sustenance, their own voluntary sales force ensure that, as Jim Doyle of Sub-District 2, says, it is working or retired miners have gone without heat. In the past few weeks, Federal tax refunds of between \$1,000 and \$2,000 a man are coming through to ease the financial strain.

In many villages, like Danville, the merchants too know where the bread is buttered. Mr. Doyle, who is Danville's mayor, said the Bank of Danville, which has \$30m. in assets, says half the bank loan is overdue. But why fear close, who is there to sell the assets? Miners are virtual the only working people in town so to-day's strikers are the famous labour unions. Beecher

White says: "On a scale of one to 10, wages come about five. To-day's miners are well paid. Thus, the room agrees that the \$100 being offered to miners is a 'bonus' when they go back to the mine is a bribe to get their votes for the contract. So the lost instead of the decision, is the loss of the union's health and welfare funds which since the late 1940s have provided members of the UMW with universal free medical care and they are the thin end of the wedge. The funds are under the terms of the current offer to be handed over to the company to run the benefits guaranteed. In return for this guarantee, the coal companies want labour peace."

But Howard Green, vice-president of the company-operated health and welfare funds, the proprietors for the next summer negotiations which will not be between the union and the company, but between the company and the coal companies. The contract, says, is designed to spell the end of the union.

There are other elements in the contract, of course, which the miners dislike and distrust. But the coal companies believe the industry does have the world's unofficial strike and absolute record in the country with almost one-fifth of working time lost last year. Many non-union mines are more productive. They do pay higher wages and offer many coal better fringe benefits. The coal companies and some companies like Occidental and Continental and steel companies like U.S. Steel that own the mines are right too, when they say that the leadership of the UMW, under Arnold Miller is rudderless.

The union has failed to adjust from the autonomy from John Lewis, the bushy eyebrows hobo of organised labour who created the UMW, to the democratic processes which followed the assassination in 1969 of Joe Yablonski as he was trying to wrest the presidency of the UMW from Lewis's successor, Tom Boyle. Boyle went in for his part in that matter although he is appealing for conviction.

Perhaps a month ago, the miners would have voted for the contract now on the table. But today, miners' enemies in the bargaining council, say, in the dispute an opportunity has been lost. The problem is where is that new leadership to come from?

In the meantime, the rank-and-file see the tide of events moving in their favour as they watch their televisions at night across parts of Indiana and arm-guards to try to ease the imminent power shortages facing industrial regions.

For their day to day needs the miners have the Government's food stamp programme which provides adequate sustenance, their own voluntary sales force ensure that, as Jim Doyle of Sub-District 2, says, it is working or retired miners have gone without heat. In the past few weeks, Federal tax refunds of between \$1,000 and \$2,000 a man are coming through to ease the financial strain.

In many villages, like Danville, the merchants too know where the bread is buttered. Mr. Doyle, who is Danville's mayor, said the Bank of Danville, which has \$30m. in assets, says half the bank loan is overdue. But why fear close, who is there to sell the assets? Miners are virtual the only working people in town so to-day's strikers are the famous labour unions. Beecher

White says: "On a scale of one to 10, wages come about five. To-day's miners are well paid. Thus, the room agrees that the \$100 being offered to miners is a 'bonus' when they go back to the mine is a bribe to get their votes for the contract. So the lost instead of the decision, is the loss of the union's health and welfare funds which since the late 1940s have provided members of the UMW with universal free medical care and they are the thin end of the wedge. The funds are under the terms of the current offer to be handed over to the company to run the benefits guaranteed. In return for this guarantee, the coal companies want labour peace."



## WORLD TRADE NEWS

## K. rotor makers dispute \$2m. Canadian repair bill

HEN LLOYD IN LONDON AND JAMES SCOTT IN TORONTO

MR. bill of \$2m. for Ontario Hydro's largest generating station is in dispute. Ontario Hydro says the bill is for the repair of a broken rotor. The U.K. company, Parsons, says the bill is for the repair of a broken rotor.

Mr. Nitenberg, the director of Ontario Hydro's thermal division, has said six generating units at any's Nantawake station shut down for up to six at intervals over the years.

Mr. Nitenberg said the result of the repairs was a shaft rubbing on steel — of the shaft.

## British marketing attacked

Y DAFTER

IER of U.K. exporters total took over six weeks to respond. Many of the companies required "persistent goading" to submit information.

## Australia signs for big oil exports to Japan

LURENCE STEPHENS

SYDNEY, Feb. 20.

ROUGH its \$2.65 per barrel subsidiary Buchanan's Collieries (P.C.), has to sell 200,000 tonnes of coal a year to a utility, Electric Power of Japan.

## Africa supplies Israel

NTIN PEEL

JOHANNESBURG, Feb. 20.

frica and Israel have use South African oil as an important energy for the Hadera oil north of Tel Aviv, closed here to-day.

Tew, managing director of the Transvaal Coal Association, who negotiated the deal, said to-day the deal depended on a technical of the coal by electricity supply.

## Jordan to offer phone project

WICKS

AMMAN, Feb. 20.

A CONTRACT WORTH \$5m. to improve telephone lines in Jordan's capital, Amman, will be put up for international tender next month in the first stage of an eight-year plan to extend the country's telecommunications facilities at a total cost of more than \$300m.

## Lak opens in Dubai

A MAY

DUBAI, Feb. 20.

to open a Middle East and photographic equipment the centre in Dubai, the products available there include a base in microfilms, chemicals and medical science, pulling out of and scientific equipment.

## Financing agreed for HK power contract

By Lynton McLain, Industrial Staff

THE £100m. power station export contract for Hong Kong, announced last month, will be signed by the end of March. This was announced yesterday by the Hong Kong Trade Development Council after agreement among 17 British, U.S. and Hong Kong banks for a \$350m. to \$400m. export credit for the Kowloon Electricity Supply Company which will be raised on the Euro-market.

The loan, managed by J. Henry Schroder Wagg is the largest foreign currency facility ever backed by the Export Credits Guarantee Department. It involves repayments at a fixed rate of interest of 7.75 per cent. over eight and a half years.

A letter of intent for the supply of £100m. worth of equipment from Britain's General Electric Company was signed last month by Eastern Energy. This owns 80 per cent. of Kowloon Electricity, with China Light holding the balance. The equipment on order includes two 350 MW turbine generators, dual-fuel boilers and all mechanical and ancillary equipment.

## Dell in Poland for talks

BY CHRISTOPHER BOBINSKI

WARSAW, Feb. 20.

MR. EDMUND DELL, Secretary of State for Trade, arrived here to-day for a three-day visit that will include talks with Mr. Jerzy Olaszewski, Polish Minister of Foreign Trade, and Mr. Henryk Kisiel, Finance Minister.

The talks will cover progress on big projects on which British companies are engaged, such as the Ursus tractor factory development by Massey Ferguson Perkins and the Wloclawek PVC plant by Petrocarb, also trade prospects for the future.

The Polish side will raise wider access to the British market against a background of a mutual trade turnover of £374m. in 1977 and a Polish trade deficit of £28m. in that period, according to British figures.

That means a cut in the Polish trade deficit of £11m. over 1978. According to Polish official figures, the trade turnover is £633m. and the 1977 deficit £287m. These figures, however, have as their base goods bought in Britain rather than British-made goods, which are the basis for British figures.

Recent British restrictions on steel imports will be mentioned by the Poles. They will emphasise that Poland's steel imports from the U.K. exceed her steel exports.

Other disputed goods are electric motors, shoes, shirts, beef and textiles. The Poles will also be pressing for a system of quantity quotas rather than value quotas if restrictions are to be imposed.

Poland \$600m. a year in export third markets, and delays in British supplies to the Wloclawek PVC project.

Although Western Import curbs have been prominent in the Press here recently, Polish officials feel that Britain is a good trade partner and that up the matter of further credits, trade will develop.

Other subjects that will be mentioned will be co-operation in producing steel-making equipment, with a view to exports in progress at the Ursus project.

## Singapore cargo handlers

BY H. F. LEE

SINGAPORE, Feb. 20.

THE PORT of Singapore Authority (PSA) together with six international airlines has set up a joint venture cargo handling services company.

Known as Changi International Airport Services (CIAS) the company will initially invest about \$540m. in new facilities at Singapore's new Changi international airport.

The facilities include a \$512m. cargo terminal, cargo and aircraft handling equipment and a self-contained maintenance base to service its own equipment, vehicles and plant. The new Changi airport is expected to commence operation in 1980.

PSA holds 74 per cent. of the equity of the new company while the remaining 26 per cent. are spread out among the six airlines — KLM Royal Dutch Airlines, Lufthansa, PT Garuda Indonesia Airways, China Airlines, Sabena, and Trans Mediterranean Airways.

The chairman of CIAS, Mr. Chung Kek Choo, who is also the PSA director for management and general services, said that the authority's participation in the venture is a logical step in the development of inter-modal transportation of freight which he said is likely to develop rapidly in the foreseeable future.

Present ideas along this line indicate that goods in the future may lend themselves to being transported in containers by air to major centres like Singapore and transhipped by sea through the region, he said.

CIAS will compete directly with another Government-owned air cargo and aircraft handling enterprise, Singapore Airport Terminal Services (SATS). A wholly-owned subsidiary of Singapore Airlines, SATS currently handles the bulk of air cargo and aircraft servicing at the Republic's existing Paya Lebar international airport.

## Canadians to relax steel duties

By Victor Mackie

OTTAWA, Feb. 20.

AN ISSUE which had the Canadian Cabinet split for weeks has finally been resolved by the Government's announcement of a limited and temporary remission of anti-dumping duties on imports of wide flanged steel.

The Government said over the week-end that a limited and temporary remission of provisional anti-dumping duties on imports of wide flanged steel, shapes from Britain, Japan, France, South Africa and Luxembourg would be permitted until June 29. The remission of the duties imposed last September 29 will apply for nine months.

The Government action follows strong representations from provincial governments and Members of Parliament over the adverse effects the duties would have on the fabricators and builders using such products. The provinces — especially British Columbia and Alberta — said the steel fabricating industry in some areas was facing difficulty because of a slowdown in the construction industry.

S. Korean order Sydney Steel, the Crown-owned Nova Scotia steelmaker, has won an order from South Korea's Pohang Iron and Steel for 66,000 tons of basic steel. The Korean company has taken an option for a further 22,000 tons and full value of the contract, including freight, would be about \$C14m.

## THE NEW PENSION.

## Something worth paying for.

It's a fact that a lot of people suffer too big a drop in income when they retire.

That's why we need the new pension scheme that starts in April this year.

It will mean that in future millions of employees will be able to retire on half pay.

Isn't that something worth paying for?

The 20 best years.

The new scheme will give you two pensions.

The basic retirement pension continues, but on top you will get a second pension based on your 20 best earning years under the new scheme.

The second pension will come either from the state or from your employer and will start being paid next year.

Both pensions will be fully protected against inflation, and will still be available to you no matter how many times you change jobs.

Better deal for women.

Women will still get their pension at 60 and (unless they have already opted to pay reduced rate contributions) they will get the same benefits as men, and pay the same contributions.

A woman can leave her job to bring up a family without losing her right to a basic pension.

What you will pay.

This table summarises the new contributions you'll pay from 6 April (the present rates, where different, are in brackets).

The new rates are listed fully in leaflet NL208 obtainable from main Post Offices and Social Security offices.

Class 1 contributions	Employees	Employers
Standard rate	6.5% (5.75%)	10% (8.75%)
Contracted-out rates:		
On first £1750 a week	6.5% (5.75%)	10% (8.75%)
On earnings between £1750 and £120 a week	4% (5.75%)	5.5% (8.75%)
Reduced-rate for some married women and widows	2%	As above (standard or contracted out)
Men over 65 and women over 60	NIL (some: 5.75%)	10% (8.75%)
Lower and upper earnings limits £1750 and £120 a week (£15 and £105).		
Employers' contributions do not take account of the N.I. Surcharge.		
Class 2 contributions: self-employed £1.90 a week (£2.55/£2.66)		
Small earnings exception from liability £950 a year (£875)		
Class 3 voluntary contributions £1.80 a week (£2.45)		
Class 4 contributions: self-employed 5% (8%) on profits or gains between £2,000 and £8,250 a year (£1,750 and £5,500)		

Working after pension age.

People who carry on working after pension age will no longer be liable for contributions after 6 April, although their employers will.

If you're self-employed.

You will not contribute to the new additional pension and will not receive it. But your rights to the basic pension remain and you will pay lower contributions than you did before.

To find out more.

For full details of the new pension scheme fill in this coupon, or ask your local Social Security office for a copy of leaflet NP34. The leaflet also covers other changes, some of which affect people with more than one job.

Please send me leaflet NP34 (write the number of copies you need in the box)

Mr/Mrs/Miss

Full address

Cut coupon out and post to: DHSS Leaflets Units, P.O. Box 21, Stannmore, Middlesex HA7 1AY

NEW PENSIONS: A MORE SECURE FUTURE

NP/B/FT/1



## HOME NEWS

## British Leyland plan to build on success

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

BRITISH LEYLAND plans to give greater priority to the development of its successful products, such as its four-wheel drive vehicles and its Rover and Jaguar saloon car ranges, in the new five-year plan, being considered by the National Enterprise Board.

The plan also calls for a re-phasing of investment in the Leyland Vehicles (truck and bus) division to give it more

## Edwardes will still run car division

MR. MICHAEL EDWARDES, chairman of British Leyland, will continue to run the group's cars division for the time being.

His decision, announced yesterday, illustrates the difficulties Leyland is facing in attracting new high-calibre management.

Mr. Edwardes has stressed repeatedly that he does not want to get immersed in the day-to-day activities of the individual product groups.

But so far he has failed to find anyone to take the central job as executive vice-chairman with responsibility for BL Cars, despite approaches to senior figures in the industry, such as Mr. Bob Lutz, president of Ford of Europe, and Mr. Bob Price, chairman of Vauxhall.

In a statement yesterday, BL Cars said that Mr. Edwardes

would continue for the time being as chairman of the cars division.

The other members of the Board will be: Mr. Colin Daniel, director of finance and systems; Mr. John Hirsch, director, cars marketing; Mr. Spen King, director, engineering; Mr. Ray Horrocks, managing director, Austin-Morris; Mr. Charles Maple, director, quality; Mr. Bill McLean, director, employee relations; Mr. Pratt Thompson, managing director, Jaguar Rover Triumph.

A managing director for the newly-created BL Components has to be announced. Mr. Pat Lowry, corporate director of Ford, and Mr. Gerry Wright, corporate director of Vauxhall, will serve on the Board as non-executive directors.

## Sales of used vehicles rise 28%

TURNOVER IN the U.K. motor trades rose by 17 per cent. in the fourth quarter of last year compared with the same period in 1976.

The largest component in the

rise was used vehicle sales, which went up by 28 per cent.

New vehicle sales rose by 22 per cent., and other sales and receipts, including petrol, oil and tyres, rose by 12 per cent.

Last year as a whole, turnover

in the motor trades was 22 per cent. higher.

Rises in sales of new and used vehicles rose by 26 and 24 per cent. respectively, while other sales and receipts went up by 18 per cent.

## Illness forces Fraud Squad chief to quit

BY MARGARET REID

COMMANDER Thomas Edwards, head of London's Metropolitan and City Police Fraud Squad for the past two years, is retiring early on health grounds.

Commander Edwards, aged 49, has presided over a wide range of inquiries, including complex ones in the international financial field. He had a series of major operations four years ago. He is now on three months leave before retiring on pension in May.

The holder of the Queen's Police Medal and eight

commendations, Commander Edwards is a forceful and independent-minded personality. He has served in the Flying Squad and spent a number of years in the Fraud Squad in the 1960s, when one of his most notable cases was the investigation into the Rolls-Royce affair. From 1972 he served for some three years in the A10 department set up to investigate complaints against police officers.

Scotland Yard said yesterday that no successor would be appointed until Commander Edwards had retired.

## Deadline for investment grant applications

BY LYNTON McLAIN, INDUSTRIAL STAFF

THE LAST government Order specifying dates by which applications for investment grants must be made came into operation yesterday.

The grants were established in 1966 to give industry over the whole country grants of 20 per cent. for new capital expenditure. In the developing regions it was 40 per cent., but this scheme has been phased out gradually since October 1970, in favour of other forms of aid, including regional development grants.

Under the Investment and Buildings Grants Act 1971, com-

panies could claim the grants only for capital expenditure incurred in contracts made before October 27, 1970.

Previous termination orders have extended the deadline for applications for investment grants and last night the Department of Industry said the final termination date specified in the latest order should be sufficiently far ahead to cover all outstanding expenditure. But if expenditure is incurred after March 31, 1977, as a result of a contract made before October 27, 1970, further extension orders will be made.

## DATES AND PERIODS SPECIFIED IN THE ORDER

Expenditure incurred	Date before which application must be made
April 1-September 30, 1977	January 1, 1977
October 1, 1977-March 31, 1978	April 1, 1977
April 1-September 30, 1978	July 1, 1977
October 1, 1978-March 31, 1979	October 1, 1977
April 1, 1979-March 31, 1983	Before the last day of a six months' period beginning with the day on which the expenditure is incurred.

## £4m. nursery school aid

LOCAL authorities in England have been given their allocations for the £4m. available for nursery education building in 1978-79.

The Department of Education and Science has given priority to authorities wishing to spend more in areas of social and educa-

tional disadvantage and to projects for handicapped children.

Bids for allocations in other areas have been met to the extent of 67 per cent. of the amounts required. The allocations are not grants but are limits within which building projects may start in 1978-79.

## Whitehall split on Typhoo closure

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

THE decision announced yesterday by Cadbury-Schweppes to close its Typhoo tea packing factory, Birmingham, with the loss of 550 jobs, has exposed a clash of interest between Government departments.

The Department of Industry is believed to have approved the transfer of work to the company's plant at Moreton, near Birkenhead, a specially-assisted area where unemployment is high.

Other Ministers have expressed concern at the impact of closure of the Typhoo factory on the local economy, which is anxious to bring employment to its declining inner city area.

The Department of the Environment announced last night that Mr. Reg Freeman, Minister for Housing and Construction, would meet Sir Adrian Cadbury, the company chairman, on Thursday to explore the future use of the factory and alternative employment prospects for the workers.

Mr. Freeman is chairman of the Birmingham City Council, which is responsible for generating new employment under the Government's policy for regenerating inner city areas.

Shop stewards reacted angrily last night to the company's announcement. "We intend to fight the decision," said Mr. Tom Burke, the Transport and General Workers Union senior steward.

A mass meeting will be held tomorrow to consider appropriate action, he said.

Cadbury-Schweppes is to concentrate tea packing at its other Typhoo factory at Moreton, on the Wirral. The North-west plant has suffered from the downturn in the economy and is in an area of high unemployment.

## Esso spends £3.5m. at Fawley plant

BY KEVIN DONE, CHEMICALS CORRESPONDENT

ESSO CHEMICAL is to expand its higher olefins plant at Fawley, near Southampton, at a cost of about £3.5m.

The move, which will increase production capacity at the site by a third, could lead to Esso building its first alcohol plant in Europe in the early 1980s.

The Fawley expansion, due to be completed in mid-1979, will substantially increase production of heptenes, octenes and nonenes.

Heptene capacity, which will be increased by 50 per cent., is currently set at 50,000 tonnes a year. The higher olefins are used as plastics and oil industry additives and as detergent raw materials.

After conversion to the intermediate alcohol stage, much of the additional octene and nonene

production will be routed to a new phthalate plasticiser plant, which is being built by Essochem Benelux in Rotterdam.

The plasticisers will be for use in the production of flexible PVC (polyvinyl chloride).

Esso has no plants in Europe for the conversion of higher olefins to the intermediate alcohol stage, with this part of the manufacturing chain being contracted to other chemical producers.

However, Esso Chemical said yesterday that preliminary design work was being undertaken for an alcohol project, with tentative plans for a unit to be built in the early 1980s.

No Board approval has yet been sought for the project.

The major contract for the Fawley expansion has been awarded to Matthew Hall.

## Economist predicts rise in GDP will be modest

BY DAVID FREUD

A GLOOMY assessment of the only 2.5 per cent. because of the impact of North Sea oil on the U.K. economy has been made by Dr. Paul Neild, chief economist of stockbrokers Phillips and Drew.

He estimates that gross domestic product will rise by just 3.25 per cent. a year in 1978-1981. This would require Government fiscal policies that would eliminate all the potential current account surplus and require a rolling-over of overseas debt due for repayment in the period.

If the Government followed more cautious policies, the growth in output would hardly exceed 2.5 per cent. a year, the average rate over the past 10 years.

In his paper, which attempts to estimate the effect of different policy options open to the Government in dealing with North Sea oil revenues, Dr. Neild states that the high marginal propensity to import is the major factor affecting expansion prospects.

"We estimate that the marginal propensity to import is now about 40 per cent. and rising. When combined with the loss of competitiveness due to a higher real exchange rate against 5 per cent. per annum inflation differential, this massive leakage into imports produces only a small increment to GDP growth in return for a relatively large erosion of the potential current account surplus."

Assuming that the historic inflation differential exists but that the exchange rate falls by

only 2.5 per cent. because of the impact of North Sea oil on the U.K. economy has been made by Dr. Paul Neild, chief economist of stockbrokers Phillips and Drew.

He estimates that gross domestic product will rise by just 3.25 per cent. a year in 1978-1981. This would require Government fiscal policies that would eliminate all the potential current account surplus and require a rolling-over of overseas debt due for repayment in the period.

If the Government followed more cautious policies, the growth in output would hardly exceed 2.5 per cent. a year, the average rate over the past 10 years.

In his paper, which attempts to estimate the effect of different policy options open to the Government in dealing with North Sea oil revenues, Dr. Neild states that the high marginal propensity to import is the major factor affecting expansion prospects.

"We estimate that the marginal propensity to import is now about 40 per cent. and rising. When combined with the loss of competitiveness due to a higher real exchange rate against 5 per cent. per annum inflation differential, this massive leakage into imports produces only a small increment to GDP growth in return for a relatively large erosion of the potential current account surplus."

Assuming that the historic inflation differential exists but that the exchange rate falls by



Mr. Denis Howell (right) with Mr. John Alderson, chief constable of Devon and Cornwall, on a visit to the snow-hit West.

## State aid to save stranded animals

BY CHRISTOPHER DUNN

THE GOVERNMENT moved quickly yesterday to honour its pledge of full support to snow-bound areas in the West Country by offering to pay part of the cost of feeding stranded livestock.

Mr. John Silkin, Minister of Agriculture, said the Government would pay an appropriate part of the cost, meaning it would foot the bill for helicopters, while farmers paid the fodder.

Mr. Denis Howell, the Environment Minister who will deal with the problems, called on counties hardest hit in the country to help in the West Country for 30 years to appoint emergency officers.

Many rail services in the Southern and Western region were resumed, but road travellers faced new hazards from fog and freezing rain.

Farmers in desperate straits trying to feed animals on snow-bound Exmoor and Dartmoor had claimed yesterday that relief by helicopters was being held up because no one knew who was going to pay the £500-an-hour fee.

Livestock losses had been considerable, the National Farmers' Union said. At least 75 farms in Devon and Somerset needed feedstuffs immediately.

Milk collections have also been severely disrupted, especially in Devon and Somerset, with almost no collections since the week-end.

The Milk Marketing Board said yesterday that thousands of gallons would be lost, because lorries could not reach the farms. Shortage of storage space will force farmers to tip the milk away.

People at risk would be top of the list for help. Mr. Howell said yesterday in his fact-finding trip to the South West. Government resources would concentrate next on helping the old and the sick, and then on people isolated by the blizzards.

Getting food, fuel, electricity and water to people would be a

## Helicopter

A year full service to the West of England ran all day, with delays in arrivals at Paddisford from the West Country gradually diminishing to less than two hours.

The RAC, which had a helicopter standing by at Plymouth manned by Marines to pick up stranded motorists, reported little improvement in roads, with Dorset "completely paralysed".

Somerset virtually impassable, with roads blocked in Cornwall, and the M5 shut for most of the day in Devon.

Industry, however, has not completely ground to a halt. English China Clays said that conditions were not too bad at the main St Austell works in Cornwall, but that production had been affected in the moorland areas.

Staff at the Westland helicopter factory in Yeovil, operating at about 20 per cent. capacity, left work at 4 p.m. to avoid problems getting home.

## Notice of Redemption

## Utah International Finance Corp.

8% Guaranteed Sinking Fund Debentures Due March 15, 1987

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of March 15, 1972 under which the above described Debentures were issued; Citibank, N.A. (formerly First National City Bank), as Trustee, has drawn for redemption on March 15, 1978 (the redemption date), through the operation of the Sinking Fund provided for in said Indenture, \$330,000 principal amount of Debentures of the said issue, bearing the following distinctive numbers:

COUPON DEBENTURES OF \$1,000 PRINCIPAL AMOUNT OUTSTANDING									
M20	1080	2339	2726	4720	5965	7152	8545	9886	11196
20	1081	2340	2727	4721	5966	7153	8546	9887	11197
24	1229	2457	2728	4722	5967	7154	8547	9888	11198
25	1230	2458	2729	4723	5968	7155	8548	9889	11199
26	1231	2459	2730	4724	5969	7156	8549	9890	11200
27	1232	2460	2731	4725	5970	7157	8550	9891	11201
28	1233	2461	2732	4726	5971	7158	8551	9892	11202
29	1234	2462	2733	4727	5972	7159	8552	9893	11203
30	1235	2463	2734	4728	5973	7160	8553	9894	11204
31	1236	2464	2735	4729	5974	7161	8554	9895	11205
32	1237	2465	2736	4730	5975	7162	8555	9896	11206
33	1238	2466	2737	4731	5976	7163	8556	9897	11207
34	1239	2467	2738	4732	5977	7164	8557	9898	11208
35	1240	2468	2739	4733	5978	7165	8558	9899	11209
36	1241	2469	2740	4734	5979	7166	8559	9900	11210
37	1242	2470	2741	4735	5980	7167	8560	9901	11211
38	1243	2471	2742	4736	5981	7168	8561	9902	11212
39	1244	2472	2743	4737	5982	7169	8562	9903	11213
40	1245	2473	2744	4738	5983	7170	8563	9904	11214
41	1246	2474	2745	4739	5984	7171	8564	9905	11215
42	1247	2475	2746	4740	5985	7172	8565	9906	11216
43	1248	2476	2747	4741	5986	7173	8566	9907	11217
44	1249	2477	2748	4742	5987	7174	8567	9908	11218
45	1250	2478	2749	4743	5988	7175	8568	9909	11219
46	1251	2479	2750	4744	5989	7176	8569	9910	11220
47	1252	2480	2751	4745	5990	7177	8570	9911	11221
48	1253	2481	2752	4746	5991	7178	8571	9912	11222
49	1254	2482	2753	4747	5992	7179	8572	9913	11223
50	1255	2483	2754	4748	5993	7180	8573	9914	11224
51	1256	2484	2755	4749	5994	7181	8574	9915	11225
52	1257	2485	2756	4750	5995	7182	8575	9916	11226
53	1258	2486	2757	4751	5996	7183	8576	9917	11227
54	1259	2487	2758	4752	5997	7184	8577	9918	11228
55	1260	2488	2759	4753	5998	7185	8578	9919	11229
56	1261	2489	2760	4754	5999	7186	8579	9920	11230
57	1262	2490	2761	4755	6000	7187	8580	9921	11231
58	1263	2491	2762	4756	6001	7188	8581	9922	11232
59	1264	2492	2763	4757	6002	7189	8582	9923	11233
60	1265	2493	2764	4758	6003	7190	8583	9924	11234
61	1266	2494	2765	4759	6004	7191	8584	9925	11235
62	1267	2495	2766	4760	6005	7192	8585	9926	11236
63	1268	2496	2767	4761	6006	7193	8586	9927	11237
64	1269	2497	2768	4762	6007	7194	8587	9928	11238
65	1270	2498	2769	4763	6008	7195	8588	9929	11239
66	1271	2499	2770	4764	6009	7196	8589	9930	11240
67	1272	2500	2771	4765	6010	7197	8590	9931	11241
68	1273	2501	2772	4766	6011	7198	8591	9932	11242
69	1274	2502	2773	4767	6012	7199	8592	9933	11243
70	1275	2503	2774	4768	6013	7200	8593	9934	11244
71	1276	2504	2775	4769	6014	7201	8594	9935	11245
72	1277	2505	2776	4770	6015	7202	8595	9936	11246
73	1278	2506	2777	4771	6016	7203	8596	9937	11247
74	1279	2507	2778	4772	6017	7204	8597	9938	11248
75	1280	2508	2779	4773	6018	7205	8598	9939	11249
76	1281	2509	2780	4774	6019	7206	8599	9940	11250
77	1282	2510	2781	4775	6020	7207	8600	9941	11251
78	1283	2511	2782	4776	6021	7208	8601	9942	11252
79	1284	2512	2783	4777	6022	7209	8602	9943	11253
80	1285	2513	2784	4778	6023	7210	8603	9944	11254
81	1286	2514	2785	4779	6024	7211	8604	9945	11255
82	1287	2515	2786	4780	6025	7212	8605	9946	





## We don't want you to look silly in a few years time.

A remarkable thing often happens when you first install a computer. The extra efficiency it brings can help your company to grow even faster than you anticipated.

But growth itself can bring problems.

The computer system you choose today might well be unable to cope tomorrow.

Which, considering the investment you're making, is a ridiculous state of affairs.

That's why, at NCR, each computer system in our 8000 Series is compatible with all the others in the range. Allowing you to migrate to any level of computer technology.

As you grow, there's no need to invest in new software each time. An enormous saving, made even better by the fact that we offer one of the most comprehensive ranges of economical, ready-made software packages.

But then, as a company we know quite a bit about growth.

We grew to be the largest worldwide suppliers of retail terminals and electronic banking equipment. And we've grown to be the third largest suppliers of EDP equipment.

The next few years we're expecting to look even better.

**NCR**

**NCR Computers. Designed to grow with you.**

NCR Limited, 206 Marylebone Road, London, NW1 6LY. Telephone: 01-723 7070.



## HOME NEWS

## Channel hovercraft will not be ready

BY IAN HARGREAVES, SHIPPING CORRESPONDENT

FRANCE'S NEW £10m. N500 hovercraft, the biggest in the world, has run into mechanical problems and will not be ready for cross-Channel services next month as planned.

The hovercraft Ingenieur Jean Bertin is at the moment sitting on shore at Boulogne instead of being put through sea trials off Dover, where it is due to join the railway-owned Seaspeed fleet on the Dover-Boulogne/Calais run.

Although British Rail Seaspeed officials hope the N500 will be ready for service at the end of April, in time for the summer holiday rush, they are disappointed that they have been let down again by the French craft.

The first N500 should have entered service last summer, but it was burned out on its pad when a welder's torch set fire to the hovercraft's skirt. This left Seaspeed with only one standard 250-seater SRN4 for the whole summer period because its second craft, the Princess Anne, was being

lengthened by the British Hovercraft Corporation in Cowes. Seaspeed, the marketing organisation jointly funded by British Rail and Societe Nationale des Chemins de Fer, has been anxious to prove the vessel's capabilities following last year's disaster and a steady flow of criticism from within the industry about the craft's handling characteristics.

The French Government has contributed half the development and production costs of the two N500s.

According to Mr. Lefebvre, the lengthening of Seaspeed's second craft is proceeding smoothly, although slightly behind schedule. But this craft, with a capacity similar to that of the N500—more than 400 passengers and 60 cars—is not due to enter service until July.

Seaspeed had been counting on the N500 and the stretched craft together to increase passenger levels from last year's loss-making £100,000 to more than £250m. in 1978.

## West air link opens early

REGULAR Air Westward flights from the West Country to France, Scotland and the Netherlands will begin on May 1—a month earlier than expected.

Mr. Peter Cadbury, chairman, announced yesterday that the airline subsidiary of Westward Television will start daily services from Exeter to Paris and Glasgow and twice daily flights to Amsterdam with 12-seater Cessna Titan aircraft. The first of three Titans has already been delivered.

"These aircraft will give more flexibility during the initial period when we are learning which routes are most in demand," said Mr. Cadbury, who revealed that the company had abandoned plans to buy the 18-seater Embraer Bandeirante turbo-prop aircraft.

"The decision follows frustrated efforts on our part to mount scheduled flights to the Bario de Gaulle Airport to New York, Washington, Rio de Janeiro and Caracas.

Mr. Cyril McGhee, the airline's London spokesman, said Air France had received no instructions from the French Government relating to future Concorde operations.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can. To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines via Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts that it will take time for the Concorde operation to generate profits, it still believes that the

## Airline denies plan to drop Concorde

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

BRITISH AIRWAYS denied yesterday that it was thinking of dropping its Concorde operations, even though they are still losing money.

Suggestions to that effect were made following unconfirmed reports from Paris that Air France was increasingly concerned about losses, and might suspend Concorde operations, with its four aircraft.

British Airways, which has five Concorde in service—costing more than £150m. including equipment such as a flight simulator—made it clear that it was fully committed to Concorde, and hoped to break even soon on some of its routes, such as that to New York.

Air France also categorically denied reports that it had any intention of stopping its Concorde flights, which at present operate from Roissy-Charles de Gaulle Airport to New York, Washington, Rio de Janeiro and Caracas.

Mr. Cyril McGhee, the airline's London spokesman, said Air France had received no instructions from the French Government relating to future Concorde operations.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can. To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines via Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts that it will take time for the Concorde operation to generate profits, it still believes that the

supersonic airliner is an asset to its fleet.

This is also the British Government's view. With its share of the five remaining Concorde still in production to be disposed of, it sees the possibility of joint operations or leasing deals with other airlines as the best way of getting those spare aircraft into service.

For the financial year ended March 31 last year, British Airways incurred an operating loss of £8.5m. on Concorde, but this was on a limited number of routes—to Washington and Bahrain—giving a utilisation of only one hour per aircraft per day. Since then, the aircraft has begun flights also to New York, and briefly also to Singapore.

Robert Mauthner, writes from Paris: The French Government does not intend to oblige the State-owned airline, Air France, to stop operating its loss-making Concorde in the foreseeable future, French officials said.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage. What will happen in the longer run is another matter.

## Silkin and ex-Minister accept damages in libel settlement

MR. EDWARD SHORT, a former Cabinet Minister, and his wife Jennie—now Lord and Lady Glenamara—have accepted damages in a libel settlement against Mr. John Silkin, Agriculture Minister, yesterday in settlement of their High Court libel actions against Mr. Edward Short, an ex-Labour MP.

Mr. Justice Melford Stevenson was told that Mr. Silkin, in his book *No Shining Armour*, had made false allegations linking the three with former architect John Poulson.

All had sued Mr. Silkin—former MP for Blyth, Northumberland—his publishers, John Calder, and distributors, Calder and Boyars.

Mr. Patrick Milmo, counsel for Lord and Lady Glenamara, said that before his grant of peerage Lord Glenamara was MP for Newcastle Central and Deputy

Leader of the Labour Party. In his book, Mr. Silkin described his campaign against corrupt practices in public life, particularly among prominent Labour MPs. Central to the theme were the connections of various people with John Poulson.

The libel action arose from a passage which reported a statement made to Mr. Silkin by another MP to the effect that Mrs. Short (as she was then) had at one time worked for Mr. Poulson.

Read in context this statement carried the clear implication that this was a suspicious and possibly corrupt association with Mr. Poulson involving both Mrs. Short and her husband, said counsel. In fact Mrs. Short had never worked for Mr. Poulson.

Mr. Silkin, in his case against the same defendants, had

accepted "relatively modest" damages, said Mr. Milmo.

Mr. Silkin and others raised the question of whether the creditors of Mr. Poulson in the hope of preventing public revelations at bankruptcy proceedings.

The defendants apologised to Lord and Lady Glenamara for their distress and embarrassment. They also withdrew "unreservedly any implication that Mr. Silkin was associated with Mr. Poulson."

A third libel action—over a newspaper interview with publisher John Calder—counsel said Mr. Silkin would receive "appropriate" damages and Lord Glenamara "a considerable sum" in damages.

The action was against Mr. Calder, the Daily Telegraph and journalist Mr. Barry O'Brien.

## Lords reserve judgment in Tarling case

THE HOUSE of Lords yesterday reserved judgment in the case of Mr. Richard Tarling, former chairman of Haw Par Brothers International, who faces extradition to Singapore to stand trial for alleged offences relating to Haw Par and other companies.

The five Law Lords who had heard 16 days of legal argument said they would give their decision later on the number of charges which Mr. Tarling, 42, will have to meet.

In their appeal, the Singapore Government wanted the Lords to reinstate five charges against Mr. Tarling—relating to the affairs of Spydar Securities Ltd. and Melbourne Unit Trust—which were thrown out by the Queen's Bench Divisional Court last October. Five other charges already stand against him.

In a cross-appeal, Mr. Tarling challenged the Divisional Court's ruling that there was a case for him to answer on 11th charges concerning a 1974 offer by Haw Par to acquire the remaining issued stock units of Motor and General Investment Holdings Ltd.

## Stockbroker questioned about bond dealings

A STOCKBROKER was cross-examined by the prosecuting counsel yesterday about £500,000 worth of dealings in local authority bonds at a resumed hearing at Guildhall Court.

Mr. Lewis Altman, of Birchington, Kent, with his stockbroker partner Mr. Robert L. Akman and Co., deny conspiring to contravene exchange control regulations between 1974-75.

The alleged infringement was in connection with currency transactions said to total more than £5m. with which Mr. Judah Binstock, a solicitor and businessman, were concerned.

Mr. Altman denied that his answers had been inaccurate, but agreed that the proceeds of some of the bonds had been limited to Zurich.

The hearing is expected to last at least another fortnight.

Mr. Michael Worsley, for the Crown, suggested that answers given by Mr. Altman last week on the way local authority bonds were bought and sold made "commercial nonsense."

He recalled some of the bonds were alleged to have been involved in transactions with two Lichtenstein-based companies, with which Mr. Binstock was connected.

Mr. Altman denied that his answers had been inaccurate, but agreed that the proceeds of some of the bonds had been limited to Zurich.

The hearing is expected to last at least another fortnight.

## Rockware counts cost of imports

FINANCIAL TIMES REPORTER

ROCKWARE, the glass container manufacturer, yesterday estimated that the increased import of glass containers last year cost the group £5m. in cash reserves.

Mr. David Bailey, Rockware's managing director, said the group employees that container imports during 1977 reached about £30m. U.K. container sales

were over 10 per cent. down in the second half of the year and his group's own stock increased by over 100m. pieces.

"Much of this imported glass should have been manufactured by and sold by Rockware, instead of the glass we made stayed in our warehouses," he said in an editorial in a new group newspaper.

## New plan to fight record rigging

BY ANTONY THORNCROFT

STUNG BY a new bout of Press criticism of "chart-rigging" by record companies, the British Phonographic Industry, the record trade's official watchdog, is to hold an urgent meeting this week to investigate the charges.

Every few years attempts to rig the record charts come to light, and this one looks serious enough for the BPI to consider calling in the police.

The attraction to record companies in getting an entry into the "Top Fifty" is that the BPI then tends to give the record air time. A self-perpetuating cycle gets underway—air play leading to more sales which leads to more air play.

Although the importance of the charts is recognised by the BPI, and the Music Research Bureau, a reputable research firm, which has been undertaking the task since 1969, it is still possible for records to buy their way into the charts.

For the research firm only covers a panel of 300 out of the 5,000 record dealers in the U.K. and two of the main distributors of records, W. H. Smith and Boots, refuse to let the researchers know their sales figures.

Since it is possible to make the lower reaches of the charts by selling just a few hundred records during a slack time of the year, knowledge of which shops are providing information is very useful to record companies.

But there is a check—the research bureau phones 50 shops which are not giving sales figures just to make sure that the records in the charts conform with their experience of current sales.

## Optimism for offshore supply industry

By Ray Dafter, Energy Correspondent

COMPANIES supplying goods and services to the North Sea oil and gas industries are in a good position to win a major slice of the world offshore business, now valued at about £4bn. a year, according to Sir Jack Rampton, Permanent Under-Secretary of State for the Department of Energy.

Sir Jack said yesterday that the North Sea already accounted for a quarter of the worldwide offshore business.

"If we can competitively take more than 60 per cent. of our home market, which is what we are now doing, then there is a very good reason why the U.K. offshore industry should expand in a comprehensive way into offshore markets overseas."

In the early 1980s the world offshore market could be worth about £6bn, he said in London before leaving for the Far East. During his visit Sir Jack will be attending the second Offshore South East Asia Conference and Exhibition in Singapore.

A consortium of 40 companies will be spending \$A158m. a year in search of gas and oil in the northwest shelf of Western Australia. Mr. Leslie Hyland, president of Australia's Continental Shelf Development Corporation, said in Singapore. He said this would rise to \$A235m. annually by the 1980s.

## Executives back profit sharing

By James McDonald

SENIOR company executives in Britain show considerable support for profit-sharing.

A survey carried out earlier this month by Market and Opinion Research International says that about three-quarters of those interviewed were in favour.

The inquiry followed publication earlier this month of the Government's Consultative Document on profit-sharing, issued by the Inland Revenue.

The survey was conducted among 100 companies, chosen randomly from the "Companies" list and from a sample of 75 top companies.

Those in favour mentioned greater incentive to employees as reasons for their support. There was also widespread support for the idea that the Government should provide incentives to approved profit-sharing schemes.

Senior Corporate Executives' Attitudes Towards Profit Sharing in Industry, Market and Opinion Research International, 29, Queen Anne's Gate, London, S.W.1, S20.

"Disruptions have meant lost sales, low profit and thus lost cash. As a result Rockware used up £5m. of its cash reserves. Many of these lost sales could be lost for good."

Competition from overseas was a real threat. The company had to meet that threat by operating more efficiently.

## LABOUR NEWS



Mr. Jones and Mr. Callaghan, with their wives Evelyn and Audrey, enjoying Mike Yarwood's impressions at the Festival Hall.

## Labour's farewell to Jack Jones

BY CHRISTIAN TYLER, LABOUR EDITOR

THE LABOUR movement in Britain yesterday said goodbye to Mr. Jack Jones after his nine years' leadership of the country's biggest union, the Transport and General Workers.

At a celebration in the Festival Hall, London, to mark Mr. Jones' retirement next month, the Prime Minister spoke of the vision which led Jack Jones to forge the social contract between the unions and the Labour Party, then in Opposition.

Mr. Callaghan said the partnership had carried Labour to electoral victory in 1974 and sustained it "almost miraculously" through four years of minority government. He said it was an achievement unique in our Parliamentary history.

On behalf of the rest of the TUC, Mr. Len Murray, general secretary, pinpointed Mr. Jones' best-known contribution to trade unionism, the development of power to the shop floor and its extension into company decision-making. "The key to progress lies at the place of work—and a democratic place of work at that," he said.

Messages from trade union leaders in many other countries testified to Mr. Jones' role in international affairs. Nearly 3,000 people, most of them rank and file representatives of the union, gave Mr. Jones a standing ovation.

## GMWU defines policy to fight unemployment

BY NICK GARNETT, LABOUR STAFF

THE GENERAL and Municipal Workers' Union today calls for expansion of the Government's work training programmes, re-direction of the Industrial Strategy, and greater medium-term spending on public services than is envisaged in the Public Expenditure White Paper.

In its document, Unemployment, the Economy and the North Sea Oil Revenue, the GMWU calls for a manpower policy to increase the proportion of the workforce in training, for reduced overtime and shorter working hours, and for improved holiday and retirement arrangements.

The report says resources must be directed to reviving manufacturing and that there is, therefore, no question of abandoning the Industrial Strategy.

It adds that the Strategy needs to be redirected downwards to company level. Inducements such as tax concessions have failed so far, the report suggests, that the original concept of planning agreements, involving the Government, management and unions, and covering planning, investment and growth, should be revived for major companies.

This alone will have limited effect in creating jobs because of technological changes, so a full manpower policy is needed.

The union says measures should include automatic extensions of the Temporary Employment Subsidy in the case of mass redundancies, a Job Expansion Premium and more resources for the National Enterprise Board and the Scottish and Welsh Development Agencies.

## Tether case continued 'reluctantly'

THE Financial Times has "reluctantly decided" not to seek a High Court order taking the reinstatement claim of Mr. C. Gordon Tether, former columnist, out of the jurisdiction of a three-man industrial tribunal which has been considering the case for 24 days.

The tribunal was sitting in London yesterday for the first time since the public admission last Tuesday by Mr. William Wells QC chairman, that he had once nodded off momentarily during the hearing—the longest in tribunal history. Mr. Wells' statement came after protests from Mr. Thomas Morison, counsel for the Financial Times, that the chairman had failed, or appeared to fail, to give proper attention to the case.

Mr. Wells ruled that the tribunal should go ahead, saying it would be unfair to stop the hearing just because, on some days, he had shown signs of fatigue. He told Mr. Morison that he had not missed any evidence. He had been woken straight away by another tribunal member.

Right reserved

Mr. Morison said he wanted to make the position of the Financial Times clear after the tribunal's decision last week. "The matter referred to in the tribunal's statement made in the proceedings defective. If any decision in the Financial Times' favour would be susceptible to challenge because of that defect, it would be pointless to continue with the present proceedings."

And, because of the position taken by Mr. Tether—and his requests that the proceeding continue—it was plain that Mr. Tether could not as a matter of law now rely on this defect.

Secondly, it was open to doubt that a new tribunal, if it took

over Mr. Tether's claim afresh, would take a shorter time than seemed likely to be spent by the present tribunal on completing the hearing.

Mr. Morison added: "Accordingly, although with some reluctance, my clients have instructed their lawyers to continue with the present hearing, and not to apply to the High Court for the requisite prerogative order to compel this tribunal's proceedings to terminate."

But he had been instructed to make it clear that the Financial Times reserved its right, in respect of the matters raised last week, should the tribunal's final decision on Mr. Tether's claim go to appeal.

Mr. Tether, 64, of Worpleston, who wrote the Lombard column in the Financial Times for 21 years, claims he was unfairly dismissed 16 months ago. His sacking was the culmination of a dispute about the right of Mr. Fredy Fisher, editor, to control his daily column.

Later, the tribunal ordered Mr. Tether to produce—for the inspection of the Financial Times—correspondence between himself and Mr. Hargreaves Parkinson, a former editor, and correspondence about a dispute with Mr. Fisher with Mr. James Callaghan, Ministers, Sir Harold Wilson—when he was Prime Minister—MPs, and other public figures.

Mr. Tether protested that these letters were written by Ministers in confidence. He was not at all sure they would be happy that they be produced. Was the inspection, he asked, solely concerned with what he wrote to Ministers or what the Ministers wrote to him?

Mr. Wells, a former Labour MP, replied that he had the greatest regard for the Prime Minister. "But I am not here concerned about his happiness constituted industrial tribunal, until today."

Mr. Morison, however, had no doubt it was a two-way stretch. Mr. Tether recalled that Mr. Morison had argued that it would be a good idea for the tribunal to consider a matter of order that Mr. Fisher's directive confining him to certain subjects constituted a contractual change in his employment, and that once a ruling was made on this point the case would be much shorter.

But Mr. Tether contended that any ruling of that kind before he had completed his side of the case would be a grave injustice.

If the Financial Times had intended to rely wholly on this proposition, the editor had an absolute contractual right to introduce the directive, then the proper time to say this was when it opened its case.

The respondents were not content to do that. By introducing serious allegations about the quality of his work, the Financial Times was implicitly saying that his competence was an important element in its case. Mr. Tether said that Mr. Morison's attempt to persuade the tribunal to make a judgment on competence had been a "serious error."

Mr. Wells replied that Mr. Tether appeared to be arguing that if the tribunal were to decide this issue, it would be deciding against the Financial Times on the whole case.

It was another issue which had to be decided in one way or another. The hearing was adjourned until today.

## Union branch demands British Steel inquiry

BY JOHN LLOYD AND ROBIN REEVES

A DEMAND for a public inquiry into the management of the British Steel Corporation's Ebbw Vale plant has come from the local official of the Amalgamated Union of Engineering Workers, Mr. Albert John.

The South Wales district of the AUEW has backed the four-day "dirty jobs" strike by 750 maintenance engineers which has halted production, and has called on the union's executive to make the strike official.

Mr. John claims that the management of the strike by asking a number of workers to carry out maintenance on a piece of machinery, when it was known that it was not their job to do so, when they refused to do the work, they were told they would not be paid.

Production at Ebbw Vale has been halted since last Wednesday. The plant normally produces 10,000 tonnes a week and is responsible for one third of the U.K. tinplate production. A new electrolytic tinning line, which will produce chrome steel and double reduced tin, is being introduced at a cost of £20m.

Alan Pike, Labour Correspondent, said that the industry craftsman's union failed to reach agreement on pay at further talks with BSC officials yesterday.

British Steel has told its workers and craftsmen that it is prepared to offer pay increases of 9 per cent. in return for union co-operation in economy measures. It was stressed to the craftsman, at yesterday's talks, that it was not a demand for a discussion of these conditions.

Production at Ebbw Vale has been halted since last Wednesday. The plant normally produces 10,000 tonnes a week and is responsible for one third of the U.K. tinplate production. A new electrolytic tinning line, which will produce chrome steel and double reduced tin, is being introduced at a cost of £20m.

## Court setback for TGWU role at Autogem

THE TRANSPORT and General Workers' Union yesterday suffered another setback in its attempts to get bargaining rights for 26 workers in a Leeds car plant distributors.

Autogem (U.K.) of Morley, Leeds, applied successfully to a vale court hearing, banned suit High Court judge for an order a move pending trial of Aut stopping TGWU taking the case to the Central Arbitration Committee.

The Advisory, Conciliation and Arbitration Service (ACAS) has recommended that the union's representatives be recognised by the company.

Mr. Justice Comyn, at a pr Leeds, applied successfully to a vale court hearing, banned suit High Court judge for an order a move pending trial of Aut stopping TGWU taking the case to the Central Arbitration Committee.

Some Escorts left on the production line during the strike started yesterday after a six-week-long strike by 1,000 pressroom workers. Ten thousand men laid off at Ebbw Vale and Ford's Southampton plant were recalled.

Well-prepared for the return to work that an hour's overtime was possible at the end of the day shift.

## Radio operators work to rule

BY PAULINE CLARK, LABOUR STAFF

RADIO OPERATORS on British North Sea oil installations started a work to rule yesterday.

It is likely to disrupt vital communications between about a dozen oil rigs.

The oil companies affected said the initial impact was slight although there are fears the prolonged action could affect production.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.

The companies include Shell, Esso, B.P., and B.N.O.C., whose Tullis platform is already on stream and B.N.O.C., whose Tullis platform is already on stream.



## WHITE PAPER ON DEFENCE SPENDING

## Britain steps up its NATO commitment

BY MICHAEL DONNIE, DEFENCE CORRESPONDENT

OUT HALF of the £2.1bn cuts in defence spending in the 1980s will be made by the equipment programme and will thus have some effect on the defence industry and associated industries.

What is revealed in the Government's annual Defence White Paper, issued yesterday, which states that the defence budget for 1978-79 is £2.1bn, equivalent to the 1977-78 figure of £2.1bn, at last year's survey represents about 41 per cent of the estimated Gross Domestic Product at market prices for 1978.

## Defence

A provision for 1980-81, however, is subject to review in the Public Expenditure Survey for 1981-82, for the first time since 1961, when the Government decided to review the provision for 1980-81.

Decisions have been taken, it will be necessary before the end of the year to take conclusions to take account of developments in arms and defence as well as economy," it says.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

While continuing to support the defence and the Government, there is no intention of reducing the U.K. forces on the front line.

West does not know the amount of Soviet military strength, but the White Paper assessments suggest it is 11 to 13 per cent of the Gross National Product.

White Paper says that the Warsaw Pact countries maintain 1.2 to 1.5 million troops, 1.2 to 1.5 main battle tanks, 1.2 to 1.5 artillery, and 2.4 to 2.8 fixed-wing tactical aircraft.

Forces in the Eastern Atlantic, the White Paper says, are 1.2 to 1.5 ships to 1, and in submarines 1.4 to 1.5, but in fixed-wing tactical aircraft, the balance is 1.2 to 1.5.

For the first time, the White Paper includes in its assessments of the forces in Western Germany and in the Eastern Germany, despite the fact that forces are not part of NATO command structure.

French figures were included because the Cabinet felt that a better overall view of total forces available to NATO would be given.

White Paper warns that comparative figures do not give a fair view of the situation, since they take into account the "best" of the forces, which are always better than the average.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

## PRESENT BALANCE OF FORCES in CENTRAL EUROPE

	NATO Countries*	Warsaw Pact Countries	NATO Countries - Warsaw Pact Countries
TOTAL SOLDIERS	1111111	1111111	1-1-2
SOLDIERS IN FIGHTING UNITS	1111111	1111111	1-1-2
MAIN BATTLE TANKS	1111111	1111111	1-2-7
ARTILLERY	1111111	1111111	1-2-5
FIXED-WING TACTICAL AIRCRAFT	1111111	1111111	1-2-4

\*Including French forces in the Federal Republic of Germany

Nato equipment is being improved constantly. In spite of the cuts in the equipment programme, expenditure on equipment will amount to about £2,770m, it says.

In comparison (at the same price level) the expenditure forecast for 1977-78 was £2,523m. Total procurement for 1978-79 is estimated at £3,060m, including associated personnel and other costs.

Spending on production will be £2,840m, or about 71 per cent, with research and development taking 29 per cent at £876m.

About 31 per cent will go on the Chieflain main battle tank into the 1980s is going ahead. These include making the engine more reliable.

The White Paper reveals that following the collapse of negotiations with West Germany on a joint new main battle tank to replace Chieflain, national studies are under way to find the best method of meeting U.K. requirements for a new tank in the late 1980s.

For the RAF, the White Paper says that the first deliveries of the Tornado in its strike variant are expected next year. The air defence variant, the F-2, is in full development.

Apart from confirming the order for 30 U.S. Chinook medium-lift helicopters for the RAF, the White Paper reveals no other new aircraft equipment procurement plans.

Agreement The Skyflash medium-range missile is entering full production, the White Paper says.

The requirement for future short-range missiles is being met by the procurement of AIM-9L missiles, most of which are likely to be built by a European consortium of which the U.K. will be a member.

Project definition has begun of the British Aerospace P3T anti-ship sea-skimming missile. Agreement in principle has been reached with the U.S. for the co-operative development of an advanced airfield attack system.

The White Paper also stresses that defence sales overseas continue to make a valuable contribution to the U.K.'s balance of payments, and that during the coming year, they are expected to amount to at least £900m.

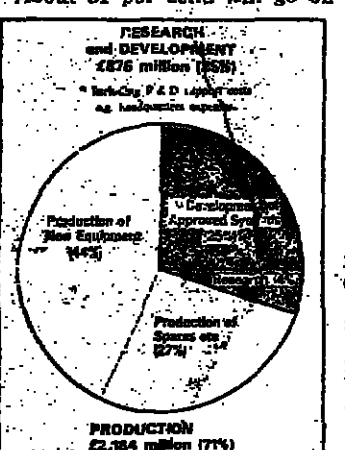
The White Paper also stresses the U.K.'s continued commitment to international co-operation in the defence sector as a means of reducing costs and improving military effectiveness in NATO.

Operational requirements and time scales both need to be agreed: the industrial arrangements need to be satisfactory for each participating country; balance of trade considerations arise from reciprocal sales and purchases must be taken into account; and the need in the long-term to maintain adequate research and development capabilities has to be borne in mind.

The third Type 42 guided missile destroyer, HMS Newcastle, will enter service soon. Three more ships are due to enter service in the coming year.

Four more ships are on order, and further orders are planned. Seven Type 21 frigates are in service and the last of the class is expected to enter service shortly. Two Type 22 frigates are sitting out, two more are under construction, and a fifth ship is planned to be ordered this year.

Referring to Army equipment, the White Paper says that work on the improvements to maintain and enhance the effectiveness of



PRODUCTION OF NEW EQUIPMENT 44%  
RESEARCH AND DEVELOPMENT 26%  
MAINTENANCE AND REPAIR 30%

Of the £2,184m, over £1,900m will be spent with British industry and the Royal Ordnance Factories, providing about 200,000 full-time job opportunities, with overseas sales generating about 70,000 more jobs.

The White Paper does not outline the precise areas where the equipment sector's share of the £2.1bn cut will fall, but it is generally believed that the aim is to stretch production or to delay orders, rather than cancel ventures.

The White Paper says that the Navy's tenth nuclear-powered fleet hunter-killer submarine will enter service shortly, and two more are under construction.

HMS Trafalgar, the first of a class of nuclear-powered fleet submarines, was placed last year, and an order for a second is planned this year.

The third Type 42 guided missile destroyer, HMS Newcastle, will enter service soon. Three more ships are due to enter service in the coming year.

Four more ships are on order, and further orders are planned. Seven Type 21 frigates are in service and the last of the class is expected to enter service shortly.

Two Type 22 frigates are sitting out, two more are under construction, and a fifth ship is planned to be ordered this year.

Referring to Army equipment, the White Paper says that work on the improvements to maintain and enhance the effectiveness of

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

White Paper says that the Government is well aware of the need to retain strong armed forces in light of the Soviet up of conventional and nuclear weapons.

## SIEMENS

## Information for Siemens Shareholders

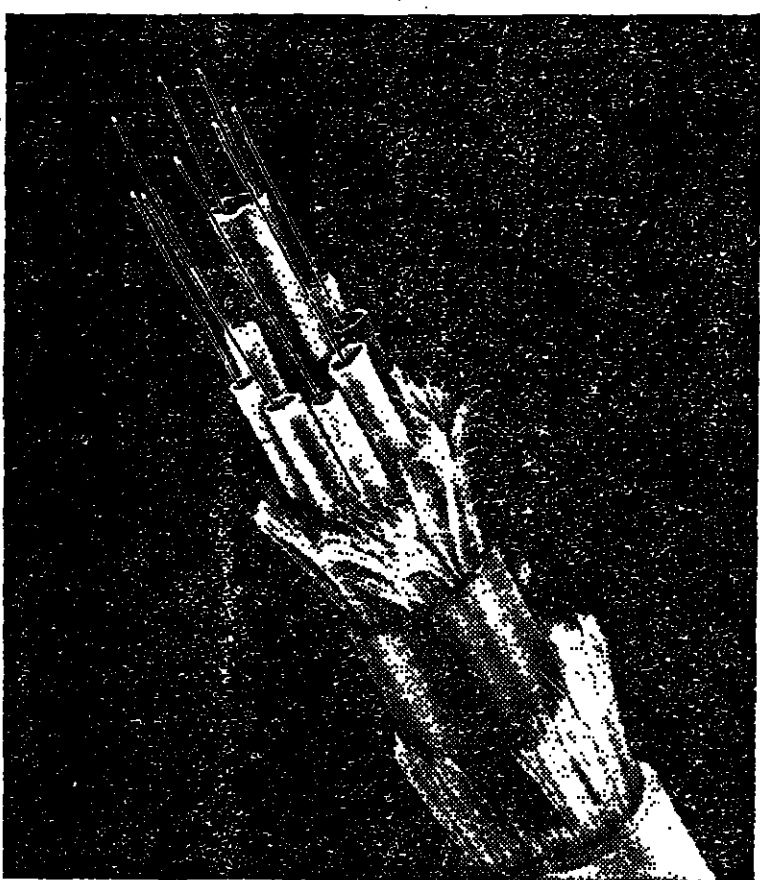
## New Order Levels Sustained

Orders received during the first quarter of the current 1977/78 financial year attained only a low approximation of last year's comparable levels. Sales for the period October 1 to December 31, 1977, excluding Kraftwerk Union, were only 5% higher than last year in comparably adjusted terms; with the inclusion of Kraftwerk Union figures, comparable sales actually show a decline.

In millions of £	1/10/76 to 31/12/76	1/10/77 to 31/12/77	Comparably adjusted change* excl. KWU	Incl. KWU
Orders received	1,651	1,772	+7%	+7%
Domestic business	729	800	+9%	+9%
International business	922	972	+5%	+5%
Sales	1,359	1,553	+14%	+14%
Domestic business	712	746	+4%	+4%
International business	647	807	+24%	+24%

In millions of £	30/9/77	31/12/77	Comparably adjusted change* excl. KWU	Incl. KWU
Order backlog	11,179	11,418	+2%	+2%
Inventories	2,522	2,558	+1%	+1%

Because of the inclusion of Kraftwerk Union and Transformator Union into the consolidated financial statements effective January 1, 1977, quarterly figures cannot be directly compared with those of the preceding year. Business development is therefore shown in comparably adjusted rates of change, excluding Kraftwerk Union.



## New optical-fibre cables

Optical-fibre cables have a number of advantages in telecommunications and data transmission applications: insensitive to magnetic field disturbance, they combine superior transmission characteristics with the smallest possible diameter. A single such fibre is a mere tenth of a millimetre thick. Shown is the magnification of a cable from our product line. In November 1977 we formed a joint company in the U.S. with the American firm, Corning Glass Works, which is the world's leading producer of optical fibres. The new company will manufacture and market optical-fibre cables.

During the first quarter, orders received amounted to £1,772 million as against £1,651 million for the previous year, a comparably adjusted drop of 1%. Of this total, international orders accounted for £972 million (last year, £922 million), and German domestic orders for £800 million (last year, £729 million). Comparably adjusted (excluding Kraftwerk Union) this represents an increase of 5% in domestic orders, and a 6% drop in orders from abroad.

Worldwide sales reached £1,553 million in the first quarter as compared with £1,359 million a year ago. At £746 million (last year, £712 million), German domestic business increased 4% at the comparably adjusted rate, excluding Kraftwerk Union. International business, with sales of £807 million (last year, £647 million) saw a comparably adjusted rise, excluding Kraftwerk Union, of 5%. During the first quarter of 1977/78, unlike the comparable period of the preceding year, Kraftwerk Union did not invoice its customers for any major contracts; the inclusion of its figures in total sales would therefore result in an arithmetical decline of 32%.

Order backlog increased 5%, excluding Kraftwerk Union, and 1% including that company. More than half of the order backlog is accounted for by Kraftwerk Union.

In thousands	30/9/77	31/12/77	Change
Employees	319	316	-1%
Domestic operations	221	218	-1%
International operations	98	98	0%

At quarter's end the number of employees was 316,000, 1% fewer than at the beginning of the quarter. However, the 1% decline in Germany is partly seasonal.

In millions of £	1/10/76 to 31/12/76	1/10/77 to 31/12/77	Comparably adjusted change*
Employment cost	625	704	+13%

At £704 million, employment cost exceeded the preceding year's level by a comparable 3%.

In millions of £	1/10/76 to 31/12/76	1/10/77 to 31/12/77	Comparably adjusted change*
Capital expenditures and investments	49	59	+20%
Net income after taxes	34	36	+6%
In % of sales	2.5%	2.3%	-8%

During the first three months of 1977/78, capital expenditures and investments totalled £56 million as opposed to £49 million last year. This represents a 5% reduction in comparable terms. Capital outlays for the entire financial year are scheduled to exceed last year's volume.

Net income after taxes increased in absolute terms; at the same time, the net profit margin dropped from 2.5% to 2.3%.

\*Rates of changes have been comparably adjusted due to the consolidation of Kraftwerk Union and Transformator Union effective January 1, 1977. All amounts translated at Frankfurt middle rate on December 30, 1977: £1 = DM 4.01.

A detailed account of the Company's preceding financial year is contained in our 1976/77 Annual Report. To receive a copy of the English version, scheduled to appear in March 1978, write to: Siemens AG, ZVW 104, Postfach 103, D-8000 Munich 1, Germany.

Siemens AG

In Great Britain: Siemens Ltd.



# PARLIAMENT AND POLITICS

## Ulster urged to stay calm after bombing

BY IVOR OWEN, PARLIAMENTARY STAFF

A "KEEP CALM" appeal went out to Northern Ireland from both sides of the Commons yesterday when MPs condemned the Provisional IRA for the County Down restaurant bombing, which killed 12 people and injured a further 23.

Mr. Roy Mason, Ulster Secretary, promised that there would be no relaxation in the intensive efforts being made to track down those responsible for "this terrible crime."

He ruled out the re-introduction of capital punishment for terrorist offences, repeated assurances that there is no question of the Government agreeing to an amnesty for convicted terrorists, and warned that a "violent reaction" would be playing into the hands of the Provisionals.

"I realise the deep emotions which have been aroused, but what is needed is restraint, plus the maximum support of the security forces for the whole community," Mr. Mason said.

After Mr. Airey Neave, Shadow Ulster Secretary, had condemned the bombing from the Opposition front bench, the Rev. Ian Paisley (Dem. Unionist, Antrim N.) said the outrage had left Northern Ireland "numb." He called on the Protestant community to restrain themselves and not retaliate in any way "because that is exactly what the IRA and these diabolical murderers want."

Mr. Paisley expressed concern about a report that detectives working on the case, who had been responsible for bringing the "godfathers of violence" into custody were being put at risk by a whitewash operation which would result in those arrested being released in a few days' time.

He also complained that concern had been caused in Northern

Ireland by statements made by Dr. David Owen, Foreign Secretary, in which he described guerrillas operating in Rhodesia as "freedom fighters." There was a very strong opinion in the province that Mr. Mason needed to declare "a fight to the finish" with no let-up in the war against these "fendish murderers."

Welcoming Mr. Paisley's appeal for restraint, Mr. Mason said that the purpose of arresting the "so-called godfathers" and some senior people in the Provisional Sinn Féin had been to try to get leads and information as quickly as possible to root out those responsible for the restaurant bombing. "There will be no let-up, as far as I am concerned," the Secretary of State declared.

When Mr. Philip Goodhart (C., Beckenham) urged that pressure should be maintained so that the godfathers were kept off the streets of Belfast and Londonderry, even if the security forces did not have enough firm evidence to get convictions, Mr. Mason insisted that evidence must be obtained before a charge was made.

It was essential that the policy of treating terrorists as criminals should be sustained in relation to the so-called godfathers, as well as others involved, he added.

Mr. Neave described the restaurant bombing as "the cowardly crime and perhaps the worst of its kind in many years of futile murder and destruction by the IRA." He led demands for a further assurance that there would be no kind of amnesty for convicted terrorists.

Mr. Mason stressed that those charged with terrorist offences were processed through the courts of law and sentenced as criminals. "There will be no amnesty,"

He ruled out the re-introduction of capital punishment for terrorist offences when Mr. James Kilfedder (Unionist, Down N.) questioned the value of Government assurances that there would be no amnesty and argued: "A dead martyr is much to be preferred to a dead innocent person."

Mr. Mason recalled that the abolition of the death penalty had resulted from a free vote in the Commons. It would be unlikely to deter the callous fanatics responsible for the carnage in the restaurant.

Imprisonment and the knowledge that they were criminals with no prospect of an amnesty was, he believed, a greater deterrent than the death penalty which would give the terrorists the "glamour of martyrdom."

Mr. James Mulvennaux (UU, Antrim S.) said there was a widely held view in the security forces that they were being inhibited by political considerations.

Mr. Mason replied that there were no political restraints on the security forces. But members of the RUC and the Army must act within the law. "They are not above it or beyond it."

He emphasised that there was no question of "no go" areas for the Army in Northern Ireland. The Ulster Defence Regiment had operated in some parts of Belfast but, he conceded, not in others.

An attempt by Mr. Kilfedder to secure an emergency debate on the security situation was rejected by the Speaker, Mr. George Thomas.

Mr. Mason told MPs that it was still not possible to say what had caused the crash of the Army helicopter in which the commanding officer of the 2nd Battalion Royal Greenjackets died.

## N. Ireland report will propose more MPs

By Richard Evans, Lobby Editor

INCREASED representation at Westminster for Northern Ireland to be recommended to-day in a report from the Speaker's conference on electoral law, will give Ministers the opportunity to retain some political support from the United Ulster Unionists for the remainder of the Parliamentary session.

Mr. Callaghan, who will make a statement on the recommendations to the Commons, will promise only to consider the report.

But it would be highly unusual for a Government to reject its findings, which are believed to be that the number of Northern Ireland MPs at Westminster should rise from 12 to 17.

Although no firm pledge can be given because of the uncertainty of the Government's legislative programme, Ministers hope to introduce a Bill implementing the recommendations later in the session.

This hope should be sufficiently attractive to Ulster MPs to ensure that they do not opt for an early general election.

There is no prospect of the recommendations taking effect before the next election, however, as there will have to be a Boundary Commission inquiry once the Bill is passed to draft boundaries for the 17 new constituencies.

Northern Ireland has been seriously under-represented at Westminster since the suspension of Stormont by the Heath administration in 1972. Previously, the low representation had been justified because of the shared administrative workload with Stormont.

## Rossi outlines Tory aim on help to home buyers

BY JOHN HUNT, PARLIAMENTARY CORRESPONDENT

A TORY Government hopes to introduce grants of between £1,000 and £1,500 to help first-time home-buyers. Mr. Hugh Rossi, Conservative housing spokesman, told the Commons last night.

He was speaking on the Second Reading of the Government Bill which provides an interest-free loan of £600 for first-time home-buyers, with a bonus of up to £110 for those who have for two years.

Opening the debate, Mr. Peter Shore, Environment Secretary, made it clear that the Government has no intention of allowing an explosion in house prices.

His department was now watching the situation very carefully, he said.

The Bill came in for considerable criticism from Mr. Rossi, who argued that house prices would have soared out of reach by the time the two-year qualifying saving period was up.

He outdid the Government by promising that the Tories would introduce a better scheme of their own if they were returned to power at the next general election.

Mr. Rossi welcomed the Bill "as far as it goes." But he suspected the Government's motives in what could be an election year. However, he said, it represented the first tottering step in the Labour Party's conversion to the benefits of home ownership.

He noted with satisfaction that the Bill allowed the maximum bonus to be varied and the terms of payment to be altered by Ministerial direction. This was all that a Tory Government would need in order to introduce an improved scheme of its own based on the Bill.

"As soon as we are in office, we shall introduce a scheme whereby the first-time buyer will receive a tax-free bonus of £1 for every £2 saved," Mr. Rossi declared.

"If he saves £300, he will receive £150. There will be nothing for him to repay. It is also our dearest hope that we will be able to extend our scheme to qualify for outright grants of anything between £1,000 and £1,500."

"Real and substantial help towards home ownership is what young people want above all else. It is the kind of help we will be doing."

It is the cheapest way of supplying housing for them. We must make sure they realise their dreams. It can be done and it will be done."

Answering Labour queries about where the money would come from, Mr. Rossi said that the abolition of the Community Land Act, with the development and land tax would be a first step towards providing it.

He thought the Government Bill would do little harm but neither would it do much good. By the time the buyer received the tax-free loan, house prices would have risen and much of the gift would have left the gingerbread.

House prices had leapt 15 per cent. since Christmas in some areas. Houses now being built for £12,000 would probably cost £17,000 within a year.

Therefore, the Government would be better off taking steps to fend off a house-price explosion by tackling the real causes—land, famine and planning delays.

In one instance recently, he said, a builder in the North of England found that houses he had planned to erect had risen by £2,000 each, due to planning delays. As a result, he had to abandon the project.

Mr. Shore in his opening speech, gave a clear indication that Government housing policy has now switched strongly towards the owner-occupier. He said there would always be a need for a substantial well-managed rented sector, but the desire for home ownership was strong and growing. If this trend were to continue, four connected problems had to be tackled.

## Tories stirring tension —Rees

By Rupert Cornwell, Lobby Staff

MR. MERLYN REES, Home Secretary, last night delivered a stinging attack on the Conservatives, accusing them of stirring up tension and trouble with their new insistence on immigration and tough law-and-order policies as election themes.

Mr. Rees, who was speaking to the Oxford University Labour Club, asked out what is likely to be the Government's position in the coming months on these two issues: that Labour "stands for order and fairness while the Tories are fomenting disorder and tension."

He accused Mrs. Margaret Thatcher of deliberately using emotive language and spurious statistics on immigration, which had incited bitterness and fear. "By moving towards the attitudes and policies of the National Front, she is making respectable people feel that they are being threatened by public order."

On-law and order, particularly in inner cities, the Home Secretary said the Tories were being irresponsible and dangerous. He exaggerated the problems without offering practical solutions. "At this time of economic fear, all this does is encourage fear and division."

Meanwhile, the Tory leadership closed ranks around Mrs. Thatcher, under her not only the Government but from Mr. Enoch Powell to Mr. Robert Carr, all of whom are in the party's liberal wing.

Sir Keith Joseph, a key figure in Conservative policy making, urged voters to back Mrs. Thatcher's line. He argued that the response to her "Grenada" TV interview had shown that most people believed that mass Commonwealth immigration had been a mistake.

Mr. Teddy Taylor, shadow Scottish Secretary, used a speech to Kensington Young Conservatives to issue a blunt warning. "Let critics come to feel 'When we find the level of our party being sniped at from the so-called Left and Right to advocating immigration policies which are too strong and too weak respectively, there would appear to be grounds for concluding that she has struck the right balance,'" he said.

Disagreement over policy was normal in a healthy party, but said Mr. Taylor: "This is a far cry from the activities of some within our party who appear to engage in repeated sniping. I am an error which the party should not make."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

Mr. Morris said he did not share Mr. Robert Carr's pessimism. "Mr. Carr's pessimism is a bit like the pessimism of a man who has lost his job and is looking for a new one."

## Banque Nationale d'Algérie

Algiers, Algeria

DM 100000000

7 1/4% Bearer Bonds of 1978/1983

— Stock Index No. 462099 —

Offering price: 100%

DRESNER BANK

BANQUE NATIONALE DE PARIS

KUWAIT INVESTMENT COMPANY (S.A.K.)

ABU DHABI INVESTMENT COMPANY

BERLINER HANDELS- UND FRANKFURTER BANK

WOOD GUNDY

YAMAICHI INTERNATIONAL (EUROPE)

ARD SECURITIES CORPORATION

ALAHLI BANK OF KUWAIT (K.S.C.)

ALGEMENE BANK NEDERLAND N.V.

AMERICAN EXPRESS MIDDLE EAST DEVELOPMENT CO. S.A.L.

A. E. AMES & CO.

AMSTERDAM-ROTTERDAM BANK N.V.

ARAB FINANCE CORPORATION S.A.L.

ARAB FINANCIAL CONSULTANTS COMPANY S.A.K.

THE ARAB INVESTMENT CO. S.A.A.

THE ARAB AND MORGAN GRENFELL FINANCE COMPANY LIMITED

BADEN-WÜRTTEMBERGISCHE BANK

BANCA COMMERCIALE ITALIANA

BANCA DEL GOTTARDO

BANCA NAZIONALE DEL LAVORO

BANCO DI ROMA

BANK OF AMERICA INTERNATIONAL

BANK OF CREDIT AND COMMERCE INTERNATIONAL (OVERSEAS) LIMITED

BANK GUTZWILLER, KURT, BUNGENER (OVERSEAS) LIMITED

BANK OF HELLINSKI LIMITED

BANK MESSE & HOPE NV

BANKERS TRUST INTERNATIONAL

BANQUE ARABE ET INTERNATIONALE D'INVESTISSEMENT (S.A.I.I.)

BANQUE BRUXELLES LAMBERT S.A.

BANQUE LOUIS-DREYFUS

BANQUE FRANÇAISE DU COMMERCE EXTERIEUR

BANQUE DE L'INDOCHINE ET DE SUEZ

BANQUE INTERNATIONALE POUR L'AFRIQUE OCCIDENTALE (BIAO)

BANQUE INTERNATIONALE ARABE

BANQUE INTERNATIONALE A LUXEMBOURG EUROPEENNE

BANQUE DE NEUFVILLE, SCHLUMBERGER, MALLET

BANQUE DE PARIS ET DES PAYS-BAS

BANQUE POPULAIRE SUISSE S.A. LUXEMBOURG

BANKING BROTHERS & CO.

BANQUE DE LA SOCIÉTÉ FINANCIÈRE EUROPEENNE

BANQUE WORMS

SARCLAYS BANK INTERNATIONAL

JOH. BRENBURG, GOSSLER & CO.

BAYERISCHE HYPOTHEKEN-UND WECHSEL-BANK

BAYERISCHE LANDESBANK

BAYERISCHE VEREINSBANK

CAISSE CENTRALE DES BANQUES POPULAIRES

BERLINER BANK

BANKHAUS GEBRODER BETHMANN

BHF - BANK INTERNATIONALE

CITICORP INTERNATIONAL GROUP

CAISSE DES DÉPÔTS ET CONSIGNATIONS

CAISSE NATIONALE DE CREDIT AGRICOLE

CENTRALE PAROBANK (COOPERATIVE CENTRALE RAFFAËLE BOERENLEENBANK S.A.)

CREDITANSTALT-BANKVEREIN

COMMERZBANK

COMPAGNIE LUXEMBOURGEOISE DE LA DRESNER BANK AG

COMPAGNIE MONEGASQUE DE BANQUE

CREDIT LYONNAIS

CRÉDIT COMMERCIAL DE FRANCE

CRÉDIT INDUSTRIEL D'ALSACE ET DE LORRAINE

CREDIT INDUSTRIEL ET COMMERCIAL

DAIWA EUROPE N.V.

CRÉDIT DU NORD

DEUTSCHE BANK

DAIICHI KANGYO BANK NEDERLAND N.V.

DEUTSCHE LANDESBANK - GIROZENTRALE -

DILLON, READ OVERSEAS CORPORATION

DEUTSCHE GROSSEKAPITAL-UND KREDITBANK

DEUTSCHE GIROZENTRALE - DEUTSCHE KOMMUNALBANK - EFFECTUARIAT HAMBURG

EUROPEAN ARAB BANK

EUROPEAN BANKING COMPANY

DEUTSCHE GROSSEKAPITAL-UND KREDITBANK

DEUTSCHE KOMMUNALBANK - EFFECTUARIAT HAMBURG

ROBERT FLEMING & CO.

GIROZENTRALE UND BANK DER OSTERREICHISCHEN SPARKASSEN

DOMINION SECURITIES LIMITED

FIRST CHICAGO

HESSISCHE LANDESBANK - GIROZENTRALE -

HILL, SAMUEL & CO.

INDUSTRIEBANK VON JAPAN (DEUTSCHLAND) ISTITUTO BANCARIO SAN PAOLO DI TORINO

HAMBROS BANK

KODER, PEABODY INTERNATIONAL

KLEINWORT, BENSON

KREDITBANK N.V.

KREDITBANK S.A. LUXEMBOURGEOISE

KUHN LOEB LEHMAN BROTHERS INTERNATIONAL

KUWAIT FINANCIAL CENTRE

KUWAIT FOREIGN TRADING CONTRACTING & INVESTMENT CO. (S.A.K.)

KUWAIT INTERNATIONAL FINANCE CO.

KUWAIT INTERNATIONAL INVESTMENT CO. S.A.K.

LANDESBANK RHEINLAND-PFALZ - GIROZENTRALE -

LAZARD BROTHERS & CO.

LOYD'S BANK INTERNATIONAL

MANUFACTURERS HANOVER

MERCK, FINCK & CO.

MERRILL LYNCH INTERNATIONAL & CO.

NATIONAL BANK OF ABU DHABI

SARUEL, MONTAG & CO.

MORGAN GRENFELL & CO.

NIPPON EUROPEAN BANK S.A.

NOMURA EUROPE N.V.

NEDERLANDSCHE MIDDENSTADSBANK N.V.

THE NIKKO SECURITIES CO. (EUROPE) LTD.

OSTERREICHISCHE LANDESBANK







# Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

## PACKAGING

### Operations combined on one machine

HEAT-SEALING is unsuitable for many types of food and confectionery products and to solve this problem, Koters and Simons have been working on cold-seal applications for food packaging for some time.

They have now succeeded in combining the cold-seal adhesive coating on the same machine and claim this is unique in food and confectionery packaging.

By printing on the face of a cellulose film or polypropylene web, followed by application of the cold adhesive pattern in register on the reverse side of the reel, Koters has succeeded in speeding up the wrapping rate for one product line by more than 70 per cent.

This technique is applied on a printing/coating machine line able to print up to four colours photographically where the coating is applied to very close tolerance. It is equipment specially developed by Simon by linking the Centrex 434 four-colour press with a purpose-built

line gravure coating unit and dryer.

This gravure applicator unit has pneumatic control of impression and doctor-blade pressure, and slow rotation of the applicator cylinder.

The equipment also incorporates resist control of the printing and a Simon-VK tension indicator system to allow web tension to be adjusted during the coating process.

One of the more difficult problems to solve was that resulting from the fact that cellulose film shrinks during processing, while polypropylene expands so that keeping the adhesive in register with both types of material demands considerable ingenuity.

This was achieved to both partners' satisfaction: trials were completed in two days and installation of the equipment at Koters showed no problems.

More on the equipment from Simon-VK at Arrowbrook Road, Upton, Wirral, Merseyside L49 0XB. 051 677 9451.

## METALWORKING

### Produces a better sheave

INSTEAD OF using the traditional method of casting to make rope sheaves, the Johnson-Buck Corp. of Tulsa, Oklahoma, U.S., uses heat and pressure to forge a groove in the edges of discs flame cut from plate.

Hubs are welded into a hole in the centre of the discs, and bearings are in customer's choice. It is claimed that this method of manufacture produces a superior sheave, which is competitively priced compared with cast sheaves.

Users are provided with an unlimited choice of sheave diameters, hubs and hub configurations, since the process is much more flexible than casting.

Standard groove angle is 30 deg., with depth 1 1/2 times the rope diameter. Sheaves made by the process are in the 14 to 54 inch diameter range.

Marketing in the U.K. is by Tonnes Force, Sawbridgeworth Road, Little Hallingbury, Bishop's Stortford, Herts. (0279 722121). This company says it is negotiating the establishment of a forged sheave plant in this country.

## PROCESSING

### Re-use of waste water

PATENTS have been applied for on a method of total recovery of used water from dyeing and finishing processes in the textile industry.

Eric Wansons of Brussels, which has devoted several years' work to the problems involved, says its method relies on the distillation under pressure of the used water, with a high degree of heat recovery. Because of this, investment in installing such plant and its operating costs could easily be recovered from savings on disposal costs which are particularly acute in this industry.

The company has a pilot plant running and will shortly be ready to demonstrate its operation to potential users.

Further details of the method from Wansons, which operates from Avenue de la Woluwe 30, 1120 Brussels, Belgium.

## FEEDSTUFFS

### Compact plant turns waste into protein

THREE YEARS' work have enabled a Scottish engineering company to build a compact plant for shore or shipboard installation to produce high protein animal feedstuff from fish waste, where existing equipment can cost more than three times as much.

The unit has just completed exhaustive tests at the Ministry of Agriculture and Fisheries Marine Laboratories at Hull and the first two production models are to be put into operation in the Shetlands and at Milford Haven in March.

Anderson Engineering (Keith), which carried out development and manufacture, has hitherto built large processing units for shipboard installation.

It decided to develop the new type of machinery and put over £200,000 into the work, based on a market research survey carried out in conjunction with Torry Research, Tropical Products Institute and the White Fish Authority.

The new design of plant allows

it to be set up on a vessel when required and not while it is under construction, as with the larger units. This will fit the needs of the smaller, middle-distance trawlers from which the waste is collected.

The plant will automatically handle all processes from cooking and drying to grinding and packing and will handle up to six tons of raw material in 24 hours. Gross weight is 51 tons.

Similar equipment is under development to process poultry and considerable interest in both types is likely to be aroused because of the continuously rising costs of feedstuffs in many countries.

Further details from Anderson Engineering, 2 St. James's Market, London SW11 4SB. 01-839 4721.

## INSTRUMENTS

### Pollution measured

TWO INSTRUMENTS have been developed in the U.S. for measuring airborne pollution—one for diesel smoke, the other for analysing airborne particle size.

The in-line full-flow smoke meter is stated to be accurate down to 1 per cent, opacity, with only 0.3 per cent zero drift over four hours. It meets both ISO and SAE requirements for smoke meters.

Opacity to 0.1 per cent, and density to 0.01 per cent, is shown on a digital display, and response time is sufficiently fast to enable readings to be taken for each cylinder for diagnostic and engine work.

Using quartz crystal microbalances, in a cascade, the

particle analyser covers the range 0.05 to 25 microns in particle size, and 100 to 65,000 micrograms/cu. metre for concentration measurement.

It uses established impaction theory to discriminate between the various particle sizes in an airborne sample drawn into the analyser by a self-contained pump, and is claimed to be the first instrument to make real time primary mass measurement practicable.

Marketing in this country is by Telonic Berkeley U.K., 2 Castle Hill Terrace, Maidenhead, Berks. SL6 4JR (0628 23067). A subsidiary of the Instruments maker, Berkeley Controls Inc., California.

## COMMUNICATIONS

### Keeps a check on itself

PUT ON the market by Wandel and Gertrud and made to CCITT specifications by TTI Inc. of California is a test set designed for the commissioning and maintenance of audio channels, mainly in telecommunication circuits.

The instrument has its own processor and memory which, in addition to controlling measurement and transmit functions is also able to test itself. All the results appearing in plain English on an alphanumeric display.

The entire self-diagnostic routine takes about 12 seconds and substantially reduces fault-finding time in the event of equipment failure.

Signal source is a low distortion oscillator covering 50 Hz to 20 kHz, continuously tuned over two hands or used in a push-button mode at preset frequencies.

Level, noise and frequency readings are shown at the same time on digital displays, all range adjustments being fully automatic. Level is auto-ranging from -30 to +10.5 dBm, noise from -90 to -10 dBm.

Testers are available for either battery or mains operation, the former weighing only 14 lbs. More on 01-992 6781.

## MINING

### Keeps the drift in line

ADAPTATION of simple electronic techniques normally used to trace underground services has solved a difficult mining problem—saying considerable time and money.

The problem was highlighted by Tara Mines, the largest zinc producers in Europe, during operations in Eire.

Tara has been using a raiser-borer to drill 12 feet diameter ventilation raises up to 450 feet deep. A 12-inch diameter pilot hole is drilled, which then has to be accurately located underground before breaking into it with a horizontal drift and starting to connect up the 12-foot diameter reaming bit.

The difficulty has been locating with the necessary precision, the 12-inch hole ahead of a drift face section about 12 feet high by 18 feet wide and as the surface drilling rig costs some £2,000 per day on location, time is vital in minimising operating costs, and in speeding up the reamer bit connection.

A steel ball is connected to an insulated cable and dropped down the hole like a plumb-bob. The end of the cable on the surface is coupled to an electro-location signal generator to impart a distinctive signal which radiates from the ball and is readily located by an instrument in the mining drift, the whole operation being like a pipe location job turned on its side.

More details from Electro-location, 129, South Liberty Lane, Bristol BS3 2SZ. 0272 604 353.

## PRINTING

### High speed paperback production

BELIEVED to be the world's fastest press for the production of book signatures, a single-colour 125 pp web offset press and folder worth £1m, is shortly to be exported to the U.S.

It will be installed at Offset Paperbooks, Manufacturers in Dallas, Penn., and will give the company a total plant capacity of 200m. books/year.

Working three shifts, the new unit will produce about 50m. 256-page books/year, running at speeds up to 30,000 impressions/hour (128 pages per impression).

Special features include a web of 60 inches and the latest Smith's non-contaminating dampening system. The double parallel jaw folder has been arranged to deliver two up, two on 32pp format.

The press has been built in the U.K. by Strachan Henshaw Speedwell, Bristol BS2 7ZZ (0272 558351), a Dickinson Robinson Group company.

## PLASTICS

### Automated moulding

AUTOMATIC CORRECTION of exact control, and set-up is operator, machine or plastic afforded by the digital all-time variations can be achieved, it is readout.

Constant peak cavity pressure is maintained while all time is process control system for injection moulding machines, and the unit switches from booster to hold pressure at a predetermined cavity pressure.

It is designed to control the regardless of plastic viscosity injection energy used to fill the mould cavities. It monitors and if peak pressure during injection controls cavity pressure to reduce cycle time, to lower reject rates, and keep downtime to a minimum. The controller operates the booster pump for the minimum time required to fill and pack the cavities—measurement of all time for.

## LIGHTING

### Better use of lamps

AS IN many areas of technology, fitting from light "bounced" off industrial and commercial lighting the achievement of the "last word" in efficiency is unlikely to take place overnight.

Philips, however, has taken a notable step in introducing a lighting package called Widespread which pushes the frontier a little further forward.

Widespread is a luminaire—a light fitting in more common parlance—which uses the Colour 84 fluorescent tube introduced some three years ago in a carefully designed reflector and a particular interest—a diffuser more properly in this case called a refractor, which has prisms lateral spacing between fittings, moulded in the surface facing the tube. Seen in section, as the prisms become more remote from the axis of the tube their angles change so that the rays are bent, in specific directions.

Combined effect of the reflector and refractor is to produce a polar diagram in the vertical plane which has two lobes on each side peaking at about 35 deg. from the vertical.

Thus, the light projected downwards is only about 60 per cent, of that at 35 deg., roughly compensating for square law distance effects and giving reasonably even surface illumination that cuts off fairly sharply at about 60 deg.

The shape of the diagram also cuts glare of two kinds: that which is experienced by a seated worker remote from the tube, the latter shining straight into his eyes, and that experienced immediately under the



## COMPONENTS

### High power gear units

METRIC REDUCTION gear units for high power heavy duty applications are to be launched on the market by Remold.

Helical and bevel/helical gear combinations give the range of parallel and right angle shaft units nominal gear ratios from 1.22 to 129.75 using single double and triple reduction gear trains.

Parallel shaft units cater for drives up to 5,700 kW (7,500 hp), while the right angle shaft versions are available for power up to 1,300 kW (1,750 hp), both depending on ratio.

Gear casings are of cast iron (steel if required) with internal feet for universal mounting. The single helical gears are precision cut, case-hardened and profile ground.

Details from Remold Craft Gear Works, Bradford, (0273 685251).

### Buff the floors

BRUSH HEADS on the latest floor polishing machine, a 800-type, powered by a 41 hp electric motor, in machine has a reversible planetary action, three-brush cleaning head, and will cover up to 500 square metres/hour.

Each pad surface operates a load of over 30 gram/square centimetre. Seven grades of abrasive pad are supplied to suit the type of floor and level of dirt.

Details from Glines Gra Avenue, Orpington, Kent (Orpington 26731).

## A FINANCIAL TIMES SURVEY

# WORLD MINING

The Financial Times Survey on World Mining scheduled for publication today will now appear on

**FEBRUARY 24 1978**

The Financial Times regrets any inconvenience to its readers

**FINANCIAL TIMES**  
EUROPE'S BUSINESS NEWSPAPER

The content and publication dates of Surveys in the Financial Times are subject to change at the discretion of the Editor.

## COMPANY NOTICES

### OLYMPUS OPTICAL COMPANY, LTD.

(OLYMPUS KOGAKU KOGYO KABUSHIKI KAISHA)

S. G. WARBURG & CO. LTD., as Depositary, announce that a dividend of Yen 3.75 per Common Share of Yen 50 Share Capital of the above Company as at 31st October, 1977 in respect of the month period ending 31st October 1977, has been declared. The dividend is payable on 15th February 1978 at the rate of Yen 3.75 per share. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

Under decision of 15th January 1978, the dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977. The dividend is payable to the registered shareholders of the Company as at 31st October 1977.

## CONTRACTS AND TENDERS

### INTERVENTION BOARD FOR AGRICULTURAL PRODUCE INVITATION TO TENDER

Tenders are invited for the urgent supply and delivery c.i.f. from any E.E.C. port of 7,200 tonnes wheat flour bagged in new or good quality second-hand jute bags. Each bag shall be marked "A Gift of Food Aid from the United Kingdom". The wheat flour is destined as U.K. national food aid to Sri Lanka and is to be loaded in one ship during March, 1978. The port of delivery will be Colombo.

The allowance for the supply and transportation costs of the flour will be determined on examination of the tenders. Delivery terms embodied in a Notice of Invitation to Tender together with Tendering Form may be obtained from: Branch B (Cereals), Internal Market Division, Intervention Board for Agricultural Produce, 2 West Mall, Reading (Telephone: Reading 553626).

Tenders must be supplied by 12 noon on Tuesday, 28th February, 1978, to:

HOME GROWN CEREALS AUTHORITY  
Hemlin House, Highgate Hill  
London N19 9PB

## APPOINTMENTS

### FINANCIAL CONTROLLER

LEADING MULTI-NATIONAL INSURANCE COMPANY requires a QUALIFIED ACCOUNTANT

to take charge of accounting for Group U.K. operations and eventually to take charge for Europe and Middle East. Successful candidate will have experience in insurance industry and will have already demonstrated management abilities.

Salary commensurate with experience and proven results. Interviews to be held week commencing February 27. Applications to Box A6250, Financial Times, 10, Cannon Street, EC4P 4BT.

## COMMODITY APPOINTMENTS LIMITED

Commodity Accountants and Surveyors (C.A.S.) U.K. Branches U.S.A. and Hong Kong. Tel. 01-499 1701

## CLASSIFIED ADVERTISEMENT RATES

	per line	single column cm.
Commercial and Industrial Property	4.50	14.00
Residential Property	2.00	5.00
Appointments	4.50	14.00
Business & Investment Opportunities		
Corporation Loans, Production Capacity, Businesses For Sale/Wanted	5.25	16.00
Educational, Motors, Contracts & Tenders	4.25	13.00
Personal, Gardening	2.75	10.00
Hotels and Travel		
Book Publishers		

Premium positions available (Minimum space 40 column cm.) £1.50 per single column cm. extra. For further details write to: Classified Advertisement Manager.

Financial Times, 10, Cannon Street, EC4P 4BT.

## PEOPLE IN POWER SHOULD VISIT IPHEX 78



IPHEX 78—The International Pneumatics and Hydraulics Exhibition incorporating Compressors and Power Transmission Equipment.

IPHEX 78—in just one day, Management and Senior Technical Personnel can compare and assess the latest developments in power transmission and control equipment technology.

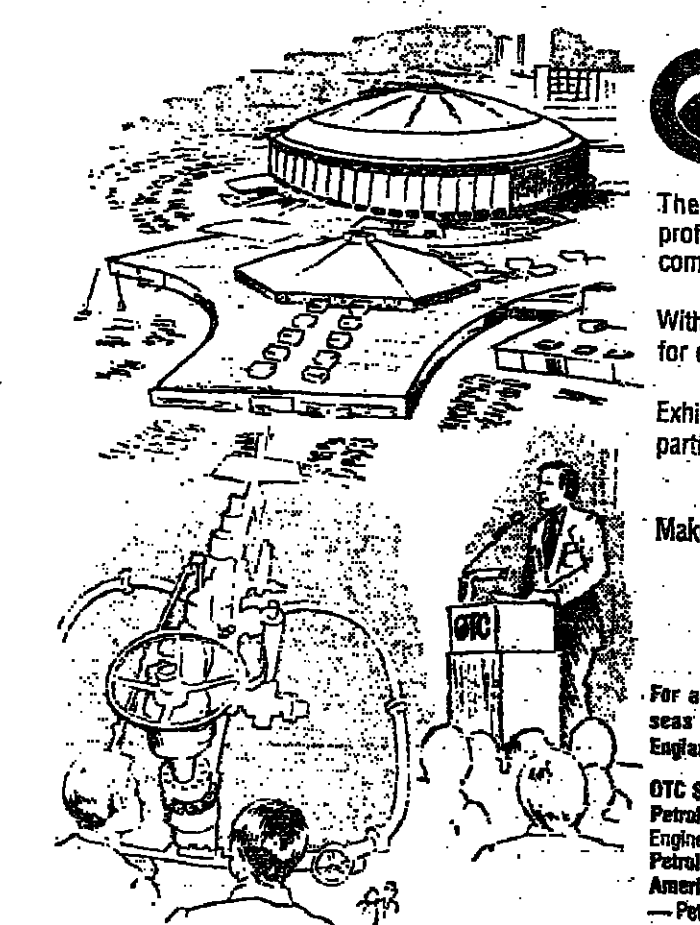
IPHEX 78 gives full coverage to the related Pneumatics, Hydraulics, Compressors and the Mechanical Power Transmission industries. Conveniently, IEA ELECTREX is being held in adjacent halls on the same dates.

IPHEX 78 is sponsored by the Association of Hydraulic Equipment Manufacturers, the British Compressed Air Society and the British Gear Manufacturers' Association, and is organised by Industrial & Trade Fairs Ltd.

IPHEX 78—13th to 17th MARCH 1978

Open daily: 09.30 hrs-18.00 hrs

National Exhibition Centre Birmingham



## OTC '78

The Offshore Technology Conference attracts thousands of professionals — over 65,000 in 1977 — to Houston's Astrodome complex each May.

With over 300 papers, the OTC '78 technical program offers something for everyone.

Exhibits at OTC '78 feature new products and services of over 1600 participating companies.

Make plans to attend May 8-11, 1978.

OTC '78 in Houston

For additional information contact Offshore Technology Conference, c/o Overseas Exhibition Services Ltd., 11 Manchester Square, London W1M 5AB, England - Telephone: (01) 498 1951 - Telex: 24581

OTC SPONSOR SOCIETIES: The American Institute of Mining, Metallurgical and Petroleum Engineers — Society of Mining Engineers of AIME — Society of Petroleum Engineers of AIME — The Metallurgical Society of AIME — The American Association of Petroleum Geologists — The American Institute of Chemical Engineers — The American Society of Civil Engineers — The American Society of Mechanical Engineers — Petroleum Division — The Marine Technology Society — The Institute of Electrical and Electronics Engineers — Oceanic Engineering Council — The Society of Exploration Geophysicists — The Society of Naval Architects and Marine Engineers



## Why Wilkinson is set on an American partnership

BY NICHOLAS COLCHESTER



Christopher Lewinton, chief executive of Wilkinson Match.

WILKINSON SWORD came to peripheral interests. The 16 years ago by applying second stage was to re-organise the company into divisions dealing with regions of the world and an initiative that d. Gillette back on its British Match was a long-lived force in the world business. In 1973 they became Wilkinson and an overseas sales force British Match needed in products to sell the deal between Wilkinson Match and Allegheny.

The third phase was to be an undefined "major step." The very fact that this was envisaged was a tacit admission that the merger had not sufficed.

### Acquisition necessary

Right from the start the top management suspected that an acquisition in the U.S. would prove necessary, but it was not until 1976, when the immediate problems of the merger had been tackled, that this loomed in priority. "Then," says Lewinton, "it came through loud and clear that Continental Europe and North America had not benefited from the merger. There was a hole in our matrix in the U.S., and we were a one-product company (razor blades) in Europe, outside the U.K."

Phase Two went ahead. Marketing of Wilkinson's consumer products—blades, writing instruments, tools, matches and lighters—was consolidated around the world. Sales of the company's other business, fire-

protection and pyrotechnic devices, were developed separately. But by the end of 1976 Randolph and Lewinton were starting to look for possible acquisitions in West Germany and in the U.S.

Nothing really caught their eye in Germany, and though they found what they were looking for in the U.S.—they hint at a company in the toiletries business—it was too much for Wilkinson to swallow.

In any case, geography was not the only thing on their minds. Mr. Lewinton explains: "We are committed to matches. We have shown what can be done with them. In the developed world it's a flat business, in the developing world it's a growing business. So that's fine situation. In the blade business we are facing major U.S. competition and with the advent of disposable razors, we are going to have a period of two or three years with pressure on margins."

It was into this thinking that the idea of a get-together with Allegheny was seeded. Mr. Robert Buckley, the president of Allegheny, visited Britain in February, May and July last year. He argued for some sort of co-operation between his garden tool subsidiary, True Temper, and Wilkinson, for which True Temper's Irish operation already made shovel, spade and fork blades. In May, according to Mr. Lewinton, Buckley suggested that Wilkinson buy True Temper. Wilkinson demurred.

What Denys Randolph calls the "trigger point" came in October-November, when Swedish Match decided that it line wanted to sell various assets, including its 33 per cent. stake in Wilkinson Match. Robert Buckley successfully sounded Allegheny and then the consumer business." Mr.

### ALLEGHENY LUDLUM'S MAIN COMPANIES.

ALI METALS GROUP (special steels): Allegheny Ludlum Steel; Ajax Forging and Casting; Good Steel Service; Special Metals Corp.; Devoe, Almet. TITANIUM METALS CORPORATION OF AMERICA (producers of titanium and manufacturers of industrial rings, railway wheels and axles). ALI CONSUMER PRODUCTS GROUP (garden equipment): True Temper Corp.; Jacobsen Manufacturing; Standard-Thomson Corp. ALI INDUSTRIAL PRODUCTS GROUP (tungsten carbide products): Carmet Company; Harvil Corporation; IPM Corporation; Chemtron.

### WILKINSON MATCH'S MAIN COMPANIES.

WILKINSON SWORD: razors, razor blades, scissors and garden tools. GRAVNER: safety and protection equipment for aviation, vehicle, marine and industrial markets. J. JOHN MASTERS: matches and the Feudor range of disposable lighters and SCRIPTO PENS: writing instruments.

suggested to Lewinton that if Allegheny was going to buy the Swedish stake, Wilkinson should buy his garden tool subsidiary. Lewinton agreed to look into it.

The company, which then negotiated a deal which provisionally gave it voting control of Wilkinson, has annual sales of \$1bn. They are in the three main areas: special steels and metals, consumer products (garden tools, sporting goods, large lawn mowers) and industrial gases and fire protection equipment.

True Temper, the subsidiary that Wilkinson will buy if shareholders agree, sells \$75m. of garden tools, \$25m. of golf-club shafts (in which it is market leader) and metal-frame tennis rackets, and \$25m. of railway track anchors, a lucrative sideline.

Mr. Lewinton calls True Temper "the Cinderella in the Wilkinson Match. Robert Buckley successfully sounded Allegheny and then the consumer business." Mr.

Wilkinson was being taken over on the cheap. Despite a revision of terms which deprived Allegheny of the prospect of voting control, the suspicions remain, and it is not certain that shareholders will approve the True Temper deal.

Whether Wilkinson shareholders are getting a good deal can be answered only when the terms are known. But there are other questions too. What motivated this link with Allegheny, a company virtually unknown in Europe? What will Wilkinson's customers and employees get out of it, quite apart from its independent shareholders? The Wilkinson chairman, Denys Randolph, and chief executive, Christopher Lewinton, have told the Financial Times how and why the deal came about.



Robert J. Buckley, president and chief executive officer of Allegheny Ludlum Industries.

Wilkinson's status under the underlying idea remained valid.

Nevertheless it is not difficult to envisage how conflicts of interest could arise. Wilkinson will be depending on its major U.S. shareholder to buy companies to sell Wilkinson products in the U.S. There could be a divergence of views over the right path to take. More importantly, Allegheny's financial priorities might lean towards the special metals business or some other, leaving less cash for the consumer end.

The Wilkinson chief executive concedes that such problems are "part of the real world." He takes courage from the fact that before Allegheny approached Wilkinson, its management had said that they were going to emphasise the consumer business and to make 35 per cent. of Allegheny's profit from outside the U.S. This, as he sees it, is what Wilkinson has been engaged to do.

Both men are confident that Allegheny is committed to this course. They appear undeterred by the unsatisfactory precedents for unconsumed mergers—by the unhappy Dunlop-Pirelli link up, or, more topically, by the current argument between BOC International and Alarco.

Denys Randolph says, with the voice of one rather wearied by the criticism that has greeted this deal: "Partnership depends on the partners. Partnerships work when both partners are getting something out of it. What do you do? Do you not have partnerships? Must you own everything 100 per cent? We honestly believe, and this to some extent is pioneering, that this sort of thing is going to happen more and more in the future."

Questions however remain. If Wilkinson is to preserve its independence why did Robert Buckley insist at the start that the deal should leave Allegheny with 51 per cent. of Wilkinson? Mr. Lewinton speaks for him: "He always felt that Wilkinson should remain a quoted company—to give it more presence and more flexibility. He insisted at the start on a majority holding. But True Temper's figures did not justify it, and he then saw that even with a smaller holding the

turning to the question of with a smaller holding the

### Insisted on a majority

### Attractions of the deal

The two men see the following attractions in the deal for Wilkinson:

- It will give Wilkinson substantial turnover in the U.S.
- Wilkinson will commit itself in a big way to the garden

- Allegheny has undertaken to invest in ways that will help Wilkinson sell its products in the U.S. One way will be for Allegheny to buy U.S. companies making complementary products. They will sell Wilkinson products in the U.S. and Wilkinson will handle their overseas sales.
- Wilkinson will more easily attract talented American management.

Turning to the question of

### AUCTION

MAGNIFICENT VALUABLE OLD & ANTIQUE ORIENTAL CARPETS

An extremely outstanding collection of rare and perfect investment category Persian Oriental Carpets, including the ordered liquidation of a major portfolio of pre-owned old Caucasian & Persian carpets bought at a time when works of the proven potential were still occasionally available. Considering the enormous success of investing in specific Oriental Carpets, this auction provides one of those rare occasions when it is possible to acquire the magnificent types of carpets which frequently have sold at the highest investment value.

Included is a semi-antique silk Kashan carpet measuring 3.45 x 2.43, one of the most valuable carpets ever offered for sale on the open market, in exceptionally good condition.

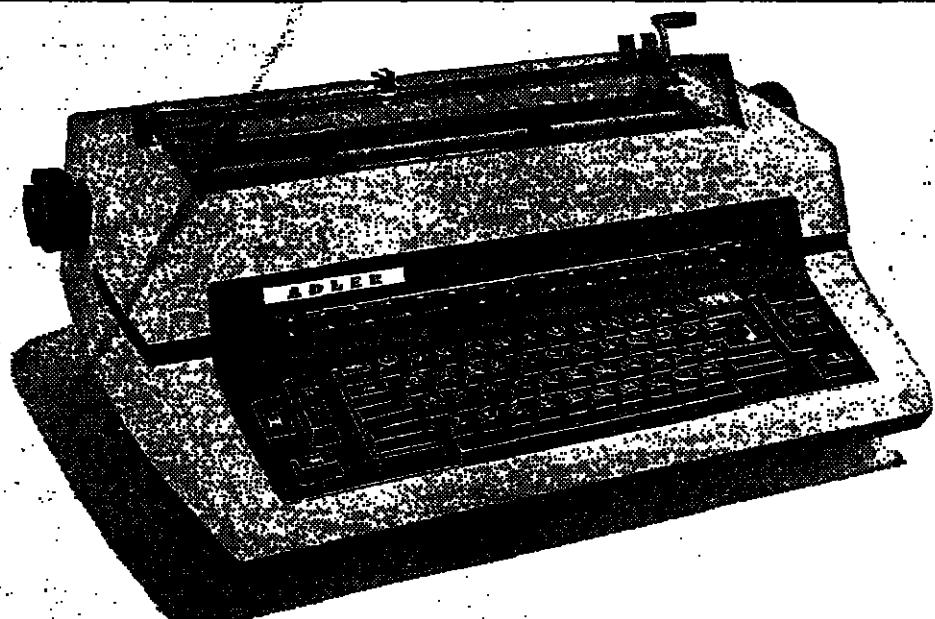
Auction Saturday 25th February at 11.30 a.m. Viewing from 9.30 a.m. in the Ballroom, Hyde Park Hotel, Knightsbridge, London SW1.

Fully Illustrated Catalogues (51) & further information from:

RIPPON BOSWELL & COMPANY

Established 1884 International Auctioneers of rare Oriental rugs, The Arcade, South Kensington Station, London SW7 2NA.

Tel: 01-589 4242. Cables: Ripposon, London SW7.



## The most important typewriter in the office—Adler SE1000CD

Once you've decided that a single element machine is best for correspondence, you'll want to be sure to pick the right one. Just check for yourself what the Adler SE1000CD has to offer.



**The Correction Key.** Press it and retype, the offending letter is actually removed from the paper. Undetectable even on coloured stationery or forms.

**Reliability. Reliability.**

**Dual Pitch.** This means you can type either 10 or 12 characters to the inch. Useful for good looking layout.

**Reliable. Reliable.**

**Half-Space Key.** Allows you to fit in an extra character should the need arise.

**Noise Proofed.** At no extra cost.

**Selection of Type Faces.** Just swap an element in seconds whenever you want a different look.



**Instant Ribbon Cartridge.** Prevents you getting your hands dirty when changing a ribbon.

Finally, something you won't find on other machines is the Adler name for reliability. To keep up this reputation, the SE1000CD has fewer moving parts—so naturally there's less to go wrong.

Call into one of the many Adler approved SE1000CD dealers and ask for a demonstration.

The Office & Electronic Machines Ltd., 140-154 Borough High St., London SE1 1LF. FT21/2 Tel: 01-407 3191.

Please send me full information on the Adler SE1000

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Tel \_\_\_\_\_

**ADLER 1000**

## Republic National Bank of New York

### Consolidated Statement of Condition

December 31, 1977

ASSETS	
Cash and demand accounts	\$ 95,775,359
Interest bearing deposits with banks	288,618,168
Precious metals	70,817,841
Investment securities	498,935,857
Federal funds sold and securities purchased under agreement to resell	165,000,000
Loans, net of unearned income	1,255,150,131
Allowance for possible loan losses	(21,505,167)
Loans (net)	1,233,644,964
Customers' liability under acceptances	87,990,900
Bank premises and equipment	15,865,025
Accrued interest receivable	44,681,461
Other assets	71,019,346
	<u>\$2,572,348,921</u>
LIABILITIES	
Deposits	\$2,047,646,981
Federal funds purchased and securities sold under agreement to repurchase	55,422,000
Other liabilities for borrowed money	3,159,756
Acceptances outstanding	89,677,157
Accrued interest payable	91,328,755
Other liabilities	23,157,845
STOCKHOLDERS' EQUITY	
Common stock	100,000,000
Surplus	78,146,591
Surplus representing convertible notes obligation assumed by parent corporation	12,490,000
Undivided profits	71,319,836
Total stockholders' equity	<u>261,956,427</u>
	<u>\$2,572,348,921</u>
Letters of credit outstanding	\$ 101,625,469

As of December 31, 1977, the total investments in precious metals and the precious metal content of gold and silver coins were substantially hedged by forward sales. The total unhedged position at that date was \$2.5 million.

A subsidiary of REPUBLIC NEW YORK CORPORATION

### REPUBLIC NEW YORK CORPORATION SUMMARY OF RESULTS

	Year ended December 31	
	1977	1976
Net income	\$19,522,394	\$16,562,371
Net income applicable to common stock	18,660,568	16,562,371
Per share of common stock:		
Net income — primary	\$5.98	\$5.30
— fully diluted	5.48	4.89
Dividends declared	1.00	.88

"On January 17, 1978, the Board of Directors of Republic New York Corporation declared a quarterly dividend to stockholders of record March 15, 1978 to be paid on April 1, 1978 of \$3.38 per share vs. \$2.25 per share paid on April 1, 1977.

Fifth Avenue at 40th Street, New York, New York 10018  
Member Federal Reserve System/Member Federal Deposit Insurance Corporation  
New York • London • Nassau  
(19 offices in Manhattan, Brooklyn, Queens, & Suffolk County)  
An affiliate of TRADE DEVELOPMENT BANK HOLDING S.A. Luxembourg



Bank, Bogota, Buenos Aires, Caracas, Chicago, Frankfurt/Main, Geneva, Luxembourg, Manila, Mexico City, Montevideo, Panama City, Paris, Rio de Janeiro, Sao Paulo, Tokyo



# The spenders re-emerge

BY COLIN JONES

THE OTHER day the South Yorkshire metropolitan county council, the planning and transport authority for the area around Sheffield and Doncaster, unveiled to the world its new structure plan. Not normally a matter, you might think, to arouse widespread outside interest. True, the council cut into a lot of hot water over its policy of holding bus fares unchanged as far ahead as 1986—an aim which had an honoured place in an earlier draft but which is now related to a policy assumption. What catches the eye this time, however, is an assumption the council has made for the purposes of projecting its capital spending.

It has locally accepted the Government's own public expenditure plans on to the end of the decade. Then, when the council thinks the pressure will be off and it will be in order for local spending to resume its earlier upward trend, the figure it has assumed is an overall increase averaging 5 per cent a year in real terms. The council is half-heartedly aware of this being an ambitious figure. The council is however emphatic that 5 per cent a year will be hard enough to accommodate all its aspirations. It clearly believes it is being not unreasonable.

**Moderate**

It is not hard to see why in the past local authority spending should have grown more rapidly than the economy generally. As affluence has risen, so proportionately more has tended to be spent on services rather than goods, and proportionately more of the growing expenditure upon services has tended to be spent on the kind of communal services provided by local authorities. This has been evident in other industrialised nations as well as here, and it has been going on for a very long time.

Between the 1870s and World War I, for example, local government spending in Britain is reckoned to have risen from about 2 per cent to 8 per cent of GNP; between the wars it rose again from 8 per cent to 10 per cent; and since the late 1940s it has risen from 8.9 per cent to almost 18 per cent.

It is obvious that this trend cannot go on for ever. Sooner or later local councils (and the national politicians and pressure groups urging higher outlays on this or that) will have to moderate their aspirations to something more in line with the long-term growth rate of the economy. Indeed, in one important respect, such an alignment would

be in local councils' own interest. For a rate of spending faster than GNP would have to be financed either by much higher rate calls (which would raise the spectre of another rates revolt) or bigger government grants (which would mean either more services being transferred to agencies of central government).

A change in attitude as fundamental as this is unlikely to come about naturally. The combination of Ministerial exhortation and Whitehall muscle which has recently brought the growth in local spending to a halt cannot be relied upon permanently. What is lacking is some automatic mechanism by means of which changing external circumstances can be brought quickly home to local councils.

## Provision

If by this or some other means the growth in local spending is in future held to about the rate of the economy, public and political pressure for more services and better standards will not of course abate. But this could be all to the good. In the first place, it could encourage local councils to review their long-term priorities. It may even lead them to re-think their resources for power and more compelling needs. Should services which have always been provided free or at well below cost always be so provided? Could not greater use be made of the price mechanism to test the demand for services which are commanding nations as well as here, and it has been going on for a very long time.

For example, could not expenditure on some traditional activities be reduced or cut out altogether in order to free resources for power and more compelling needs? Should services which have always been provided free or at well below cost always be so provided? Could not greater use be made of the price mechanism to test the demand for services which are commanding nations as well as here, and it has been going on for a very long time.

## FILM AND VIDEO

## BY JOHN CHITTOCK

# Videocassette dealers prepare for battle

PREDICTIONS of a volatile 1978, made in this column a few weeks ago, are already showing signs of coming to life. Last Thursday, the newly formed Association of Video Dealers in U.K. spent most of the day preparing the stockades for the videocassette battle which looms ahead in the next few months. Opening shots will be fired next Monday when JVC hold the London Press launch of their three-hour videocassette machine, the VHS. This is expected to become available in the shops in April, but an even earlier date could be announced next week.

Last Thursday, the video trade also heard that Sony has pulled its own marketing schedule ahead to an earlier date—with June now planned instead of September for their own Betamax recorder. Price will be about £750 including VAT, and blank two hour videocassettes will sell for only £12-£13.

## Rat race

The video dealers, far from rubbing their hands with glee, are beginning to carry furrowed brows. They look like becoming reluctant contestants in a rat race, with price slashing leaving a trail of blood behind as it happens now in the U.S. Even Sony have mixed feelings, regretting that their own launch has been hurried by events and expressing concern that the video dealers are not ready to cope with the servicing backup for this new product requires. For the customers, the hi-fi boom with discounted prices could happen all over again.

With such activity in the approaching air of spring, it is becoming a busy time for the audio-visual Press. Last Friday, in anticipation of events, plans for a major European conference on the new electronic media were announced with Mr. Buckminster Fuller as one of the star speakers. Called EuroComm '78, the event—which takes place in Copenhagen from May 30 to June 1—will cover everything from the current video-cassette battle to the electronic newspaper and the paperless office.

In this electrified atmosphere, the last two weeks were not the most auspicious time for the

British Sponsored Film Festival to hold its marathon of London selection screenings. This year the Festival moves to Birmingham, from May 9-12, but the pre-selection screenings have been staged as a public event this time, with some 180 films unspooling themselves to a frequently small and very somnolent audience.

It was more than the most dedicated critic could bear for every day of a fortnight, but most of my colleagues share my view that the experience has confirmed a downward trend in quality. Delegates could take their pick from safety films, selling films, videotapes on educational themes, even—curiously—a film starring Bing Crosby in an interview about attitudes to marriage.

Of the scattered bunch that I saw, only one caused me to stir with interest and even excitement: The World of Nelson, sponsored of course by Nelson. With a title and subject like that, who would expect anything but a dull film? In fact it, excels in all departments, using outstanding camerawork, music and editing to unfold information about this plastic netting that will come as a complete surprise to many viewers. It is used for underground pipe-laying (to protect the pipe surface from stones), harvesting fruit and fish, protecting nursery trees, even on coastlines to prevent soil erosion. It is a splendid testimony to the inescapable truth that dull films are not necessary given dull subjects.

## Predictability

In contrast, what an exciting subject British Airways have in the Concorde. Some of this comes through in Transatlantic Supersonic, a sales film to promote the British Airways' routes (but out of date already by sending passengers to New York via Washington). I found a similar Air France film, screened in Berlin last year, much more impressive—though it managed to stir in me some old fashioned feeling of chauvinism about Britain.

What is wrong with most of current sponsored films is their predictability. Few are downright bad, but even fewer are

really good. They all plod along the same path and leave one convinced that sponsor, producer, director and writer are all rather bored with their jobs.

Thus the Health and Safety Executive's training film Don't Tell the Lads commendably tries to be a cut above average by taking the style of a TV documentary in following the case of high lead levels found in the blood of some factory employees. But the story is dull in its concept and if screened on the medium from which it takes its style, it would be quickly switched off.

Likewise The Role of the Landscape Company, sponsored by Blakesdown Landscapes. Here is a potentially fascinating subject, exploring the part played by landscape consultants in various development schemes. Just like current TV programmes about gardening, it is a cameraman's dream, and just like the TV programmes, the chance is wasted.

## Sheet anchor

As usual, faith is restored by British Petroleum who alone seem to be providing the sheet anchor in this period of depression for the sponsored film. Last week, BP added to the busy diary by previewing The Flame Moves East, a film that tells the story of a liquefied gas plant that has been built on the small island of Das, off Abu Dhabi. It is an international project to provide Japan with natural gas. And like so many BP films, this production is a masterpiece of its kind, perhaps most of all because of its exhilarating photography.

In spite of the gleam of hope provided by the few, the medium begins to look increasingly like an anachronism. Maybe we all are becoming satiated with moving pictures, and the approaching revolution in electronic media is going to take over by transmitting just the barest of information succinctly and without the embellishment of art. It is the syndrome of the stressful society: too busy to have time to stand and stare. As with food, we are now in the era of instant, accelerated, dry-freeze communication—and no more than one minim of sweat to reconstitute the message.

# Irish challengers press for Cheltenham honours

THOSE OF US who had been rivals for the first time, the four did his feeling that Ireland's challengers year-old trained by Adrian Mac-mille—a at Cheltenham next month would well kept on with great determin for the be hard-pressed to lift more than a close third to the final the odds minor prize may have to Leopardstown's Sean Graham so than Hurdle winner, Golden Cygne, English reconider.

In the past few weeks, Fast and Mr. Kildare's subsequent ran the Score, Corrib Chieftain, Ballyross, Nass' victim, Olst Dubh. That run, if reproduced on all but Cheltenham, is to be a record for the three who interest me most from this group, with an eye on the ante-post lists, are Fast, Score, Corrib Chieftain and Monksfield.

Both Fast Score and Corrib Chieftain, who are respectively quoted at 14-1 and 16-1 for the meet in the Daily Express race and Mr. Daily Express Triumph Hurdle (the four-year-old champions' weak opposition), drew attention to their Score, when finishing fourth of slightly chances on the same afternoon at 12 in a division of the Barrow Light.

Naas last month. Fast Score, a game daughter of enough to suggest that he too; further, Forward Pass, tackled the has more than a forlorn hope of against stronger company in the Slaney upstaring Rodman.

Hurdle. Racing against older Behind in the early stages, he ex-cra-

# Royal Fusiliers buy Queen's scarf and letter for £170

THE LOTS were more interesting than the prices at a Sotheby's auction of autograph, letters and historical documents, which totalled £18,703. For example, the Royal Fusiliers paid £170 for a letter from Queen Mary, consort of George V, about a scarf which she had knitted during the First World War for a private in the regiment. Included with the letter is the seven-foot scarf.

The highest price was the £820 from W. Lea for five letters sent from Gambia in 1839 and 1840. Letters of this period are rare. Letters from Malta in 1849 fetched £480, and three albums of autographs and calling cards, including A. E. Houseman, T. S. Eliot and others, sold for £440. More than 2,000 17th century letters and items from the Wyche family of Norfolk were bought by Quarrick for £500. The same dealer also acquired for £170 some contemporary letters on the French invasion of Fishguard in 1797.

At Sotheby Parke Bernet in New York over the week-end, in an antiques sale which totalled a £245,000, a marble figure of a

## RACING

BY DOMINIC WIGAN

March 16, will give Fast Score a second chance of beating the less observed Chieftain, who are respectively quoted at 14-1 and 16-1 for the meet in the Daily Express race and Mr. Daily Express Triumph Hurdle (the four-year-old champions' weak opposition), drew attention to their Score, when finishing fourth of slightly chances on the same afternoon at 12 in a division of the Barrow Light.

Naas last month. Fast Score, a game daughter of enough to suggest that he too; further, Forward Pass, tackled the has more than a forlorn hope of against stronger company in the Slaney upstaring Rodman.

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

Hurdle. Racing against older Behind in the early stages, he ex-cra-

## Radio

† Indicates programme in black and white

4.20 Wally Gator. 4.25 Jackanory. 4.30 Playhouse. 5.05 John Craven's Newsround. 5.15 Star Turn.

5.40 News. 5.55 Nationwide (London and South-East only). 6.20 Nationwide. 6.50 Young Musician of the Year. 7.20 The Rockford Files. 8.10 The Good Old Days. 9.00 News.

9.25 Play For Today. 11.00 To-night. 11.40 The Engineers. 12.05 News. Weather / Regional News.

All Regions as BBC1 except at the following times: Wales—2.32-2.37 p.m. For Schools. Tablao (7) Tablao. 5.55-6.20 Wales Today. 6.30 Heddidi. 7.15 Pobl Y Cwm (senod) penod 21. 7.45-8.10 Ask The Family. 12.05 a.m. News and Weather for Wales. Scotland—5.55-6.20 p.m. Reporting Scotland. 12.05 a.m. News and Weather for Scotland. Northern Ireland—5.55-6.20 p.m. Northern Ireland News. 5.55-6.20 Scene Around Six. 12.05 a.m. News and Weather for Northern Ireland. England—5.55-6.20 p.m. Look East (Norwich). Look North (Leeds, Manchester, Newcastle). Midlands Today (Birmingham). Points West (Bristol). South Today (Southampton). Spotlight South-West (Plymouth).

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m. Open University. 11.00 Play School. 2.15 p.m. Other People's Children. 2.30 Having a Baby. 12.00 Propaganda With Facts. 3.20 The Living City. 4.55 Open University. 7.00 News on 2 Headlines. 7.03 On The Rocks. 7.30 Newsday. 8.10 International Pro-Celebrity Golf. 9.30 Spike Milligan in "Q7". 9.30 The Man Alive Report. 10.20 In The Looking Glass. 10.50 Late News on 2. 11.00 The Old Grey Whistle Test. 11.40-11.45 Music at Night by Kachaturian.

7.05-7.30 a.m







## FINANCIAL TIMES

BRACKEN HOUSE, CANNON STREET, LONDON EC4A 3BY

Telegrams: Finantime, London PS4. Telex: 386341/2, 853597

Telephone: 01-248 8000

Tuesday February 21 1978

## An Egyptian blunder

WHEN THE Israeli Defence Forces performed their rescue act at Entebbe 18 months ago, there was widespread admiration for their daring and the manner in which their mission was accomplished. There was similar admiration for the West Germans when they succeeded in freeing the hostages at Mogadishu last autumn. The two acts differed in that the Israelis were operating more or less on their own in territory that could certainly not be considered friendly, while the Germans had the co-operation not only of third countries, but also of the Government on whose territory the rescue was carried out. There were two common factors: one was success, and the other was a general feeling that in the circumstances the Israelis and the Germans were right to do what they did.

## Precedents

And yet there were also more considered reservations. The premium on success was high. If the Israelis — and still more if the Germans — had made a mess of it, there would have been untold domestic and international consequences. In the German case, for example, it is difficult to see how Helmut Schmidt could have survived as Chancellor if he had presided over such an intervention, and failed to bring it off. There was also the danger of creating precedents, and indeed Entebbe itself was in a way a precedent for Mogadishu. Yet if the Israelis and the Germans could get away with such actions, why should not others follow suit? There was the further danger, moreover, that they might do so at times when the case for military intervention was considerably less clear-cut.

That is precisely what has happened with the Egyptians. It is hard to believe that they would have acted as they did in Cyprus last week-end if the precedents had not been set. But, unlike the Israelis and the Germans, the Egyptians failed to make adequate preparations. It is not even clear that their forces had a detailed battle plan in mind; they may even have lacked the right equipment. Unlike the Germans, they failed to secure the co-operation of

the authorities on the ground, though there may have been some genuine misunderstanding; here, what is worse, they intervened at a time when it was unnecessary to do so: negotiations on the freeing of the hostages were already well under way. And, worst of all, they botched it.

There are two general lessons to be drawn. The first is that still greater attention needs to be given to the prevention of hijacking and anything related to it. It is mildly encouraging in the present case that no Arab country was prepared to allow the aircraft to land. But, in general, the rules at airports are still too lax: authorities are still too often unprepared to deal with what has become a relatively frequent occurrence; and the practice of refusing landing permission to hijackers has yet to be turned into a proper international convention. Such a convention needs to be enforced by a readiness among international airlines, backed by Governments, to withdraw services from airports which are in any way soft on hijacking.

The second general lesson is that there needs to be international machinery to deal with hijacking and the taking of hostages, if prevention has failed. The practice of one country taking the law into its hands and seeking to perform its own rescue act is dangerous—as the Egyptian example has shown. What is needed is an international rescue squad, properly trained and properly equipped for the business of disarming hijackers. That this can be done was demonstrated by the German experience at Mogadishu. The German operation came as close as it was possible to come to an international operation, and it worked.

## Crime

It is important, of course, to have the co-operation of the authorities on the ground, as the Germans did. But it would be itself a revealing exercise to see which countries would refuse to subscribe to such a convention. The alternative is an invitation to international lawlessness which would be almost as bad as the crime which it seeks to defeat.

## Britain's role in NATO

YESTERDAY'S Defence White Paper has already been attacked by the Left as a surrender to the "warhawks" and by the Right for "duplicitous". But it is unlikely to remain a controversial document for very long. There is indeed virtually nothing new or surprising in it, as most major decisions had already been announced over the past few months. This may have been necessary, it has been suggested, to pre-empt Left-wing attacks on the increased defence spending that the White Paper sets out in detail. But whatever the reason, the effect has been to confirm Whitehall predictions that the Paper would not be very exciting.

## Commitment

Two points, however, stand out. The first is the strength of the Government's commitment to NATO and to current plans to strengthen the Alliance's forces. The three per cent increase in spending due in 1979-80, first revealed in January's Public Expenditure White Paper, may not be enough to compensate totally for earlier cuts. But it is in line with the Allied target agreed last year in response to President Carter's call for a strengthening of the West's capabilities and has already been welcomed in Brussels. In view of the Left's traditional sensitivity over defence spending, it would probably be unreasonable to have expected a Labour Government to do much more.

For the years further ahead, the Government has limited itself to the same commitment it made in January. The NATO objective is a 3 per cent spending increase in real terms in each of the five years starting in 1979. So far, however, the U.K. is cautiously only accepting another 3 per cent increase in 1980-81, leaving the three following years subject to review "in the light of economic circumstances". This is in accordance with the escape clause accepted by the Alliance's Defence Ministers, who agreed that countries might be allowed to miss the target if their economies could not stand the strain. But NATO has made it

clear that other things being equal the U.K.'s North Sea oil will almost certainly disqualify it from pleading poverty.

As it is, the White Paper goes out of its way to demonstrate to other NATO members that Britain is already pulling its full weight. The Government says that the share of the country's GDP devoted to defence spending was down to 4.9 per cent in 1977, from 5.1 per cent the year before. But it also publishes figures to show that this still keeps Britain firmly in second place after the U.S. Another point it stresses is that the U.K. last year spent a higher proportion of the defence budget on major new equipment than any other of 11 member countries investigated in a NATO survey.

That, of course, is not the sort of information designed to mollify the Labour Party left wing, and the Government feels the need to back it up with a well argued case for strengthening the Alliance. Not only does it spell out all the improvements recently made in the Warsaw Pact forces, but quite rightly points out that the further the Alliance falls behind in conventional capability, the further the nuclear threshold will be lowered.

It is equally correct to point out that there is no sign that détente has led to any slackening in the pace of the Soviet Union's military effort.

## Controversy

The White Paper's presentation of the military balance raises the second point that has caused controversy—the inclusion of French forces in West Germany and the Atlantic in NATO side of the equation. It is, of course, true that these forces are not officially integrated into the Alliance's military command. It is equally true that it is virtually impossible to imagine a major East-West confrontation in Europe in which they would not be fighting alongside the Alliance's forces. It may be unwise to try to calm anxieties about NATO's real weaknesses by such methods, but it hardly amounts to "duplicitous".

## Western Governments

reluctantly are coming to accept that they will not get what they wanted from the 35-nation East-West security conference in Belgrade. With the conference well past its scheduled mid-February end, and sustained only by ad hoc procedural arrangements, the general view in Belgrade is that only a miracle can now save it.

The West originally came to Belgrade with ambitious hopes. The aim was, first, to engage the East in a genuine dialogue on the implementation of the 1975 Helsinki Agreement, which set new principles for the conduct of East-West relations, including respect for human rights. The Western tactic was to be firm on Eastern shortcomings on human rights, but not to single them out for exclusive attention. The other major economic, military and political aspects of the Agreement were to be fully examined as well. At the same time, the West was more than ready to admit shortcomings on its own side, in the hope of stimulating a real debate.

## Movement of people

The second main aim was to devote the latter part of the conference to the drawing up of a "substantive" concluding document containing a fair assessment of how far the Helsinki Agreement had been respected, in the light of the earlier debate. The West wanted the document to contain the clearest possible reaffirmation of the Helsinki commitments, particularly on human rights, and agreement on a new series of more specific commitments. A key Western objective was the free movement of people facilitating human contacts, such as East-West marriages and family reunification by easing procedures for the granting of visas (both entry and exit), passports and marriage licences. A second aim was to develop the so-called "confidence-building measures" decided at Helsinki, under which each side agreed to be more open about major military manoeuvres.

There was also a whole range of other Western proposals covering items such as a businessman's access to the end-user of the product he was trying to sell, journalists' working conditions, industrial co-operation and the publication of statistics. An important political point was to be that individuals in any country should be free to conduct their own monitoring of the Helsinki Agreement without the sort of Government interference and harassment that has occurred in the Soviet Union and Czechoslovakia. The total effect, in Western eyes, would be to give important new impetus

to East-West co-operation and détente.

Such an approach was bound to put the Soviet Union on the defensive. During the review stage of the conference, from the beginning of October to just before Christmas, Mr. Yuri Vorontsov, the chief Soviet delegate, on several occasions threatened to walk out of the conference, arguing that the West, and particularly the U.S., was interfering grossly in his country's internal affairs.

The Soviet Union counter-attacked by launching a series of disarmament proposals, such as the non-use of nuclear weapons, which it knew the West could not accept.

Other East bloc countries drew attention to Western violations of rights such as those of women and racial minorities, and the right to work. But if the temperate dialogue sought by the West never materialised, western delegates at least claim credit for having got away with a comprehensive and fairly public statement of their views on human rights violations before an official Eastern audience for the first time ever.

It is noticeable, however, that people like Mr. Arthur Goldberg, the leader of the U.S. delegation, are increasingly pressing the relative success of the first part of the conference even as the second part is lapsing. Dr. David Owen, the British Foreign Secretary, has taken the same line. Both are clearly realising that there is going to be little to show for the work on the concluding document that has occupied the Belgrade negotiators since the conference resumed in mid-January.

## Tougher line

The first sign that the final month or so was going to be rough came on the very day the conference re-opened, when the Soviet Union tabled a short draft concluding document that made not one single concession to either the Western viewpoint or that of the line neutral and non-aligned countries at the talks. Since then, Moscow has taken a much tougher line than it did during the conference review period.

Western and neutral negotiators complain that the Russians have made their task virtually impossible by insisting that the concluding document must neither repeat the language of the Helsinki Agreement nor go beyond it. The Soviet Union and its Allies have consistently refused to agree to any text that suggests that there have been shortcomings in the implementation of the Helsinki Agreement.

The nearest Moscow has

## Spectre of failure haunts the Belgrade conference

BY REGINALD DALE, European Editor



Setting out on a pitfall-strewn path: heads of the U.S. and Soviet delegations, Mr. Arthur Goldberg (left) and Mr. Yuri Vorontsov, chat on the opening day of the security talks last October.

come to admitting that everything is not rosy was in a text submitted at the end of last week. The final Russian offer, as it was described by Mr. Vorontsov, suggested that the participants should note with satisfaction that the process of détente "has continued surmounting difficulties and obstacles encountered." That is obviously not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The similarity of the neutral and Western positions has, if anything, complicated the negotiating process. The neutral and non-aligned countries normally would be ideal go-betweens to negotiate a compromise between the two sides. But their own proposals for a concluding document can much more towards the West than the East, and are in important parts unacceptable to the Soviet Union.

A French attempt to produce a compromise failed to satisfy either side at the end of last week, with Mr. Western delegates suspecting that the main aim of the move was to present President Giscard d'Estaing in a state of light, mediating between East and West on the eve of next month's crucial

concession it wanted from West—the holding of a so conference to confirm the war division of Europe.

It cannot be ruled out that the Soviet Union will make some last-minute concessions. That is its normal way of doing business at international negotiations. But even if it does, it is almost inconceivable that the concessions could satisfy the West on such key issues as human rights, human contacts and confidence-building measures.

The game that is being played by both sides at the moment is that of trying to ensure that the other takes the blame when failure is finally admitted. Thus the West is still saying it is prepared to keep the meeting going for as long as there is a prospect of agreement on a concluding document, while the Soviet Union, which started a flurry of activity ten days ago, is rapidly producing new versions of its January proposals. By last Friday, the original three-page Soviet text had grown to 12 pages in a bid to show that it was not Moscow that was refusing to be co-operative. That text, too, was rejected by Mr. Goldberg, leaving Mr. Vorontsov to say he would make no further proposals. "Enough is enough," he told the Press. "It is the beginning of the end."

Western diplomats are now admitting that they may have made some mistakes. It was always unrealistic, they now realise, to expect the Eastern countries to engage in a frank dialogue on human rights given the current state of East-West relations and at a time of mounting internal dissidence in the East. The West also, they believe, put forward far too many proposals for specific action. With the East deciding to respond by matching each Western proposal with one of their own, there were almost exactly 100 such documents on the table by Christmas—far too many for a negotiation that was due to last only one more month.

Each country would then say what it thought of the conference's failure as loudly as possible at the final public session towards the end of this month or early next. Until the Swiss took the plunge and proposed just such a solution yesterday, neither side wants to con-

cede to admitting that everything is not rosy was in a text submitted at the end of last week. The final Russian offer, as it was described by Mr. Vorontsov, suggested that the participants should note with satisfaction that the process of détente "has continued surmounting difficulties and obstacles encountered." That is obviously not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The similarity of the neutral and Western positions has, if anything, complicated the negotiating process. The neutral and non-aligned countries normally would be ideal go-betweens to negotiate a compromise between the two sides. But their own proposals for a concluding document can much more towards the West than the East, and are in important parts unacceptable to the Soviet Union.

A French attempt to produce a compromise failed to satisfy either side at the end of last week, with Mr. Western delegates suspecting that the main aim of the move was to present President Giscard d'Estaing in a state of light, mediating between East and West on the eve of next month's crucial

much-criticised witnesses notably Thorne, Phillips and EC—the committee has written to each enclosing the latest Meiklejohn evidence. It has given them the chance to reply before to-day's hearing. But neither these replies nor Meiklejohn's original criticism will be free available. A spokesman for Thorne told me yesterday that there was no intention of publishing its answers at any time.

So instead of charge and counter-charge, this afternoon's session will see the committee turning the tables on Meiklejohn, calling for him to defend his accusations in the light of the reply from the lamp industry which he has not seen. Of course, then the committee finally publishes its report, it may make a evidence public. Or it may not.

## Levelling off

Overheard in a Birmingham factory canteen: "I don't mind sticking to the 10 per cent limit—provided the power workers get a bigger 10 per cent than the miners."

The accusations were described by Palmer—himself an electrical engineer—as an indictment of the whole of the

concession it wanted from West—the holding of a so conference to confirm the war division of Europe.

It cannot be ruled out that the Soviet Union will make some last-minute concessions. That is its normal way of doing business at international negotiations. But even if it does, it is almost inconceivable that the concessions could satisfy the West on such key issues as human rights, human contacts and confidence-building measures.

The game that is being played by both sides at the moment is that of trying to ensure that the other takes the blame when failure is finally admitted. Thus the West is still saying it is prepared to keep the meeting going for as long as there is a prospect of agreement on a concluding document, while the Soviet Union, which started a flurry of activity ten days ago, is rapidly producing new versions of its January proposals. By last Friday, the original three-page Soviet text had grown to 12 pages in a bid to show that it was not Moscow that was refusing to be co-operative. That text, too, was rejected by Mr. Goldberg, leaving Mr. Vorontsov to say he would make no further proposals. "Enough is enough," he told the Press. "It is the beginning of the end."

Western diplomats are now admitting that they may have made some mistakes. It was always unrealistic, they now realise, to expect the Eastern countries to engage in a frank dialogue on human rights given the current state of East-West relations and at a time of mounting internal dissidence in the East. The West also, they believe, put forward far too many proposals for specific action. With the East deciding to respond by matching each Western proposal with one of their own, there were almost exactly 100 such documents on the table by Christmas—far too many for a negotiation that was due to last only one more month.

Each country would then say what it thought of the conference's failure as loudly as possible at the final public session towards the end of this month or early next. Until the Swiss took the plunge and proposed just such a solution yesterday, neither side wants to con-

cede to admitting that everything is not rosy was in a text submitted at the end of last week. The final Russian offer, as it was described by Mr. Vorontsov, suggested that the participants should note with satisfaction that the process of détente "has continued surmounting difficulties and obstacles encountered." That is obviously not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The similarity of the neutral and Western positions has, if anything, complicated the negotiating process. The neutral and non-aligned countries normally would be ideal go-betweens to negotiate a compromise between the two sides. But their own proposals for a concluding document can much more towards the West than the East, and are in important parts unacceptable to the Soviet Union.

A French attempt to produce a compromise failed to satisfy either side at the end of last week, with Mr. Western delegates suspecting that the main aim of the move was to present President Giscard d'Estaing in a state of light, mediating between East and West on the eve of next month's crucial

much-criticised witnesses notably Thorne, Phillips and EC—the committee has written to each enclosing the latest Meiklejohn evidence. It has given them the chance to reply before to-day's hearing. But neither these replies nor Meiklejohn's original criticism will be free available. A spokesman for Thorne told me yesterday that there was no intention of publishing its answers at any time.

So instead of charge and counter-charge, this afternoon's session will see the committee turning the tables on Meiklejohn, calling for him to defend his accusations in the light of the reply from the lamp industry which he has not seen. Of course, then the committee finally publishes its report, it may make a evidence public. Or it may not.

## Levelling off

Overheard in a Birmingham factory canteen: "I don't mind sticking to the 10 per cent limit—provided the power workers get a bigger 10 per cent than the miners."

The accusations were described by Palmer—himself an electrical engineer—as an indictment of the whole of the

concession it wanted from West—the holding of a so conference to confirm the war division of Europe.

It cannot be ruled out that the Soviet Union will make some last-minute concessions. That is its normal way of doing business at international negotiations. But even if it does, it is almost inconceivable that the concessions could satisfy the West on such key issues as human rights, human contacts and confidence-building measures.

The game that is being played by both sides at the moment is that of trying to ensure that the other takes the blame when failure is finally admitted. Thus the West is still saying it is prepared to keep the meeting going for as long as there is a prospect of agreement on a concluding document, while the Soviet Union, which started a flurry of activity ten days ago, is rapidly producing new versions of its January proposals. By last Friday, the original three-page Soviet text had grown to 12 pages in a bid to show that it was not Moscow that was refusing to be co-operative. That text, too, was rejected by Mr. Goldberg, leaving Mr. Vorontsov to say he would make no further proposals. "Enough is enough," he told the Press. "It is the beginning of the end."

Western diplomats are now admitting that they may have made some mistakes. It was always unrealistic, they now realise, to expect the Eastern countries to engage in a frank dialogue on human rights given the current state of East-West relations and at a time of mounting internal dissidence in the East. The West also, they believe, put forward far too many proposals for specific action. With the East deciding to respond by matching each Western proposal with one of their own, there were almost exactly 100 such documents on the table by Christmas—far too many for a negotiation that was due to last only one more month.

Each country would then say what it thought of the conference's failure as loudly as possible at the final public session towards the end of this month or early next. Until the Swiss took the plunge and proposed just such a solution yesterday, neither side wants to con-

cede to admitting that everything is not rosy was in a text submitted at the end of last week. The final Russian offer, as it was described by Mr. Vorontsov, suggested that the participants should note with satisfaction that the process of détente "has continued surmounting difficulties and obstacles encountered." That is obviously not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The similarity of the neutral and Western positions has, if anything, complicated the negotiating process. The neutral and non-aligned countries normally would be ideal go-betweens to negotiate a compromise between the two sides. But their own proposals for a concluding document can much more towards the West than the East, and are in important parts unacceptable to the Soviet Union.

A French attempt to produce a compromise failed to satisfy either side at the end of last week, with Mr. Western delegates suspecting that the main aim of the move was to present President Giscard d'Estaing in a state of light, mediating between East and West on the eve of next month's crucial

much-criticised witnesses notably Thorne, Phillips and EC—the committee has written to each enclosing the latest Meiklejohn evidence. It has given them the chance to reply before to-day's hearing. But neither these replies nor Meiklejohn's original criticism will be free available. A spokesman for Thorne told me yesterday that there was no intention of publishing its answers at any time.

So instead of charge and counter-charge, this afternoon's session will see the committee turning the tables on Meiklejohn, calling for him to defend his accusations in the light of the reply from the lamp industry which he has not seen. Of course, then the committee finally publishes its report, it may make a evidence public. Or it may not.

## Levelling off

Overheard in a Birmingham factory canteen: "I don't mind sticking to the 10 per cent limit—provided the power workers get a bigger 10 per cent than the miners."

The accusations were described by Palmer—himself an electrical engineer—as an indictment of the whole of the

## MEN AND MATTERS

## Canada takes a pelting

When those serious men at the Canadian High Commission in London arrived yesterday for their work, they found a huge billboard outside Canada House showing a baby harp seal being clubbed to death and proclaiming: "Canada's politicians without pity tolerate a Stone Age economy in Newfoundland. The civilised world urges Prime Minister Trudeau to find other employment for the 200 or so men who are brutalised at the harp seal hunt." Hardly the advertising jingle of the year, but nonetheless a straightforward declaration of war by the seals' self-proclaimed protectors, the International Fund for Animal Welfare.

Worse was to come later in the day when in the Savoy a panel of Newfoundland government experts found themselves heckled by the IFAW's executive director, Brian Davies. Looking like a slimmed-down Ustinov, he was not too impressed by Newfoundland Premier Frank Duff Moore's claim that killing the seals provided full-time employment to 2,000 people and part-time work for 4,000 people.

To them, seals are a resource like seaweed, the population is growing and could support the killing of more than 130,000 cubs per year; in any case, said Moore, the method of killing used is "humane." It consists of smashing the skulls of the trusting two-week-old cubs with a club appropriately called a hakkapik. They are then skinned, with half the sealers' income coming from the pelt and the rest from the flippers—eaten by Newfoundlanders as a delicacy—and the fat which is even incorporated in chocolates. The issue has become international politics. At Strasbourg last month few parliamentarians turned up to the debates on human rights, but there was a

full house for seals. Here Brigitte Bardot's presence perhaps helped and her intervention with President Giscard d'Estaing has since led to a ban on pelt-imports being imposed in France. Back at home Canadian parliamentarians have been numbing about cruelty to grapes and geese by the French and threatening retaliations, while Trudeau himself has written soothingly to Bardot.

But now Davies, who works with Richard Adams of Waterbury Down fame, is trying to get Britain to ban the imports, pointing out that the U.S. Congress has not only done so but has condemned the killing. He is having posters put up for a demonstration in Trafalgar square on March 2 and was breathing fire and thunder against Moore for criticising his salary of \$45,000 per year.

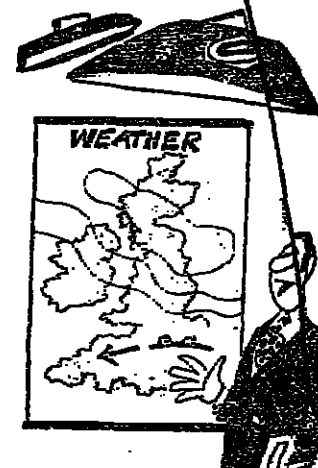
He would have ferried journalists to the seal seals this year, had he not a Canadian sentence for disturbing the seals by flying a helicopter under 2,000 feet. But proving he is earning his salary, he was off last night to Frankfurt. Premier Moore's "travelling circus" is due to speak there and Davies is all set to heckle again.

## Socialist sexcess

In the course of a five-hour speech to party functionaries last week, East German Head of State Erich Honecker asserted that national policy was strengthening the population's feeling of social security. "This security is being expressed by the increased birthrate and by the love of children. Last year alone, 27,000 more children were born than were planned by the Plan Commission."

## Put out the light

Earlier this year, it looked as though public investigations by



"A hot air stream in the form of Mr. Denis Howell is approaching the West Country..."

a House of Commons select committee into the life of light bulbs were becoming, as one might say, almost incandescent. But any interested users attending to-day's session to hear David Meiklejohn, the only consumer witness before the committee, will be in for a bitter disappointment. They may even have some quizzical thoughts about the openness of the committee.

Research engineer Meiklejohn has put together an 18-page presentation of his case, at the committee's request; but not a word of this will be heard in public.

The last time Meiklejohn appeared, he was warned by Arthur Palmer, MP, the chairman, against uttering in the corridor his accusations that lamp company witnesses had lied before the committee.

The accusations were described by Palmer—himself an electrical engineer—as an indictment of the whole of the

British lamp industry. Now it seems the committee has devised a strategy for clipping Meiklejohn's wings. Even in the committee room, where witnesses are protected by Parliamentary privilege against accusations of slander, he may not air his views. A hearing planned for last Wednesday was postponed so that Meiklejohn could collate his argument. This has now been done, and the unrepentant Meiklejohn assured me on the telephone, before setting out from Fife for London that evidence given earlier by the companies was "wishful thinking or just sheer ignorance."

To shed some light for the much-criticised witnesses notably Thorne, Phillips and EC—the committee has written to each enclosing the latest Meiklejohn evidence. It has given them the chance to reply before to-day's hearing. But neither these replies nor Meiklejohn's original criticism will be free available. A spokesman for Thorne told me yesterday that there was no intention of publishing its answers at any time.

So instead of charge and counter-charge, this afternoon's session will see the committee turning the tables on Meiklejohn, calling for him to defend his accusations in the light of the reply from the lamp industry which he has not seen. Of course, then the committee finally publishes its report, it may make a evidence public. Or it may not.

## Levelling off

Overheard in a Birmingham factory canteen: "I don't mind sticking to the 10 per cent limit—provided the power workers get a bigger 10 per cent than the miners."

The accusations were described by Palmer—himself an electrical engineer—as an indictment of the whole of the

## LOTHIAN

WE'VE A LOT TO OFFER YOU'VE A LOT TO GAIN.

The Lothian Region, with Edinburgh at its heart, offers a formidable roll call of satisfied industrial customers: C industrial estates owned by the Lothian Regional Council are now 147 thriving companies with 11,000 employees.

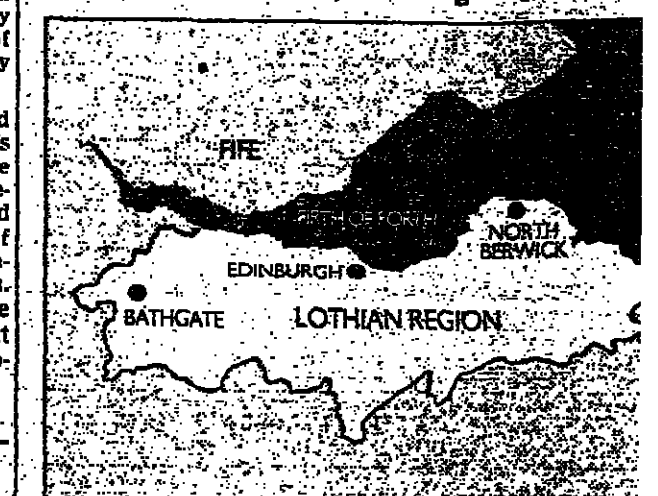
Outstanding among the reasons for the success of the Region's industrial estates is the quality of Lothian labour. We receive from employers' letters us in no doubt Lothian labour is very highly regarded, indeed.

Our access to good road, air, rail and sea communication is rivalled only by our access to commercial money: Edinburgh is one of Europe's foremost funding and investment centres.

For the businessman who can't wait we have turned available 22 fully-serviced industrial sites, 10 modern factories and 16 of the latest warehouses. All ready for occupation. Fly up and see us sometime. Soon.

If you want to know more before you take off, call or write to:

R. I. Shanks, Industrial Development Manager  
Lothian Region Development Authority  
18 St Giles Street, Edinburgh EH1 1PT.



DIAL 031-229 9292 EXT 34

DEVELOP WITH THE LOTHIAN REGION

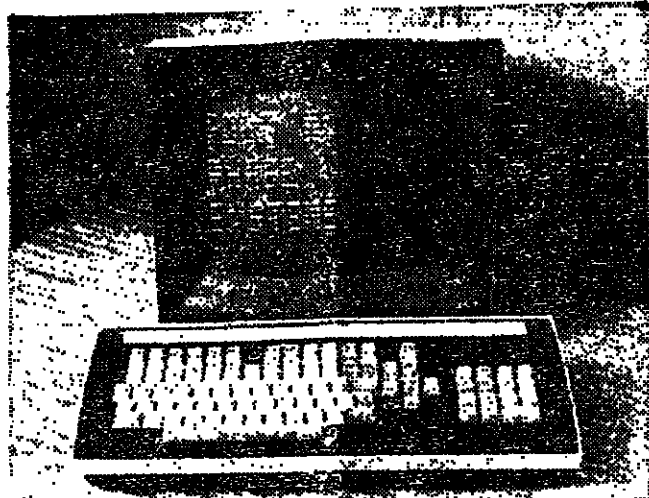






## THE COMPUTER INDUSTRY II

# FOUR-PHASE SYSTEMS PRESENT VIDEO ORIENTED COMPUTERS FOR



## DISTRIBUTED PROCESSING 3270 COMMUNICATIONS STAND ALONE BUSINESS APPLICATIONS KEY-TO-DISK/REMOTE JOB ENTRY

Four-Phase Systems, at the forefront of technology, has studied the problems of modern business and produced a family of video oriented computers to give the data processing manager the maximum flexibility in systems design.

VISION is a distributed processing package for use with Four-Phase clustered display systems. It combines Key-to-Disk, Source Data Entry, On-line Enquiry, Local Data Management, Report and Document Generation and Batch Communications with an optimum balance of local and central processing.

ForeWord is the word processing package

which the data processing manager can now offer his company as a cost effective addition to distributed processing.

Four-Phase base their products on systems efficiency. The video oriented computers are also cost-effective stand-alone business systems that can be programmed in COBOL.

Thus the data processing manager will find on one machine a combination of products relevant to his needs now and also in the future.

You owe it to your company to check out how Four-Phase technology can benefit you.

Telephone, write or send your business card to:

Brian Lloyd, Four-Phase Systems Limited,  
37 High Street, Marlow, Bucks SL7 1AU. Telephone 062 84 71921.

# If business is a trifle slow, here's how to speed it up

If you have a small to medium-sized company ready to take the next step up the ladder, we can help.

The help is called a Datasaab D15 business computer. As well as making child's play of your general ledger and accounting work, it will also adapt to the special problems of your industry.

As a stock control device D15 is unrivalled.

For as well as working on a real-time basis, we have eliminated product coding and so turned the order entry process into a magically simple affair.

It's compact, too, with no special environment needed - up to 15 workstations can be connected to the mini-computer.

And, because of our policy of helping until

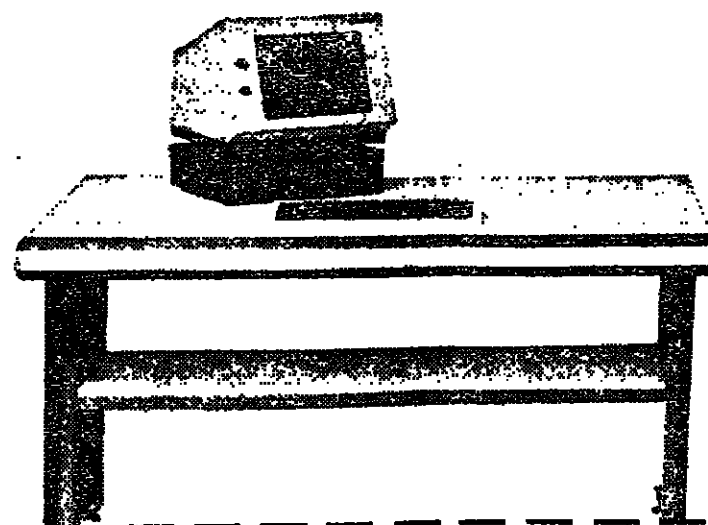
everything is working well, you'll find dealing with us is quite different from the usual sell-it-and-leave-it attitude of many other computer companies.

We are now owned by the Saab-Scania Group and the Swedish State, so you've the assurance of dealing with a really solid company.

And since much of the reputation we have built over the past few years has been based on our systems support and applications knowledge, we are finding that Datasaab customers stay Datasaab customers.

Something few other companies can claim, we suspect.

To find out how a Swedish-made Datasaab D15 could speed up your business, all you need do is fill in the coupon below.



☐ Please rush me full details on the D15.  
☐ Please ask your Representative to call me for an appointment.  
Fill in the coupon below.

NAME: \_\_\_\_\_

POSITION: \_\_\_\_\_

ORGANISATION: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

And return to John Medlock, Datasaab Ltd.,  
1 Gresham Street, London EC2V 7BU. Telephone: 01-606 0425

**DATASAAB**  
Part of Scandinavia's foremost technical organisation.

# Merger fever

IN RECENT months, Honeywell Information Systems and its French partner CII-Honeywell-Bull have been reviving the talk about mergers of computer manufacturers in Europe.

At the same time, Siemens in Germany has been having active talks with Fujitsu of Japan, with whom it has a long-standing association. Both Siemens and Fujitsu have denied rumours emanating from Tokyo that a formal agreement is imminent by which Siemens would market Fujitsu's newest large computers in Europe. On the other hand, there is good reason to suppose that the possibilities of a closer tie-up are being carefully considered.

International Computers Limited (ICL) in Britain, has, on the other hand, shown no public sign that it is interested in joining any merger fever at present. It is now in a good period of strong growth and increasing profitability which gives it at least temporary relief from the pressure for mergers in the industry at large.

These pressures arise inevitably from the overwhelming dominance of IBM with over half of the world's computer market, its huge expenditure on research and development (about \$1bn. on all products) and its ability to cut prices if it wished to a point which would threaten competitors with extinction.

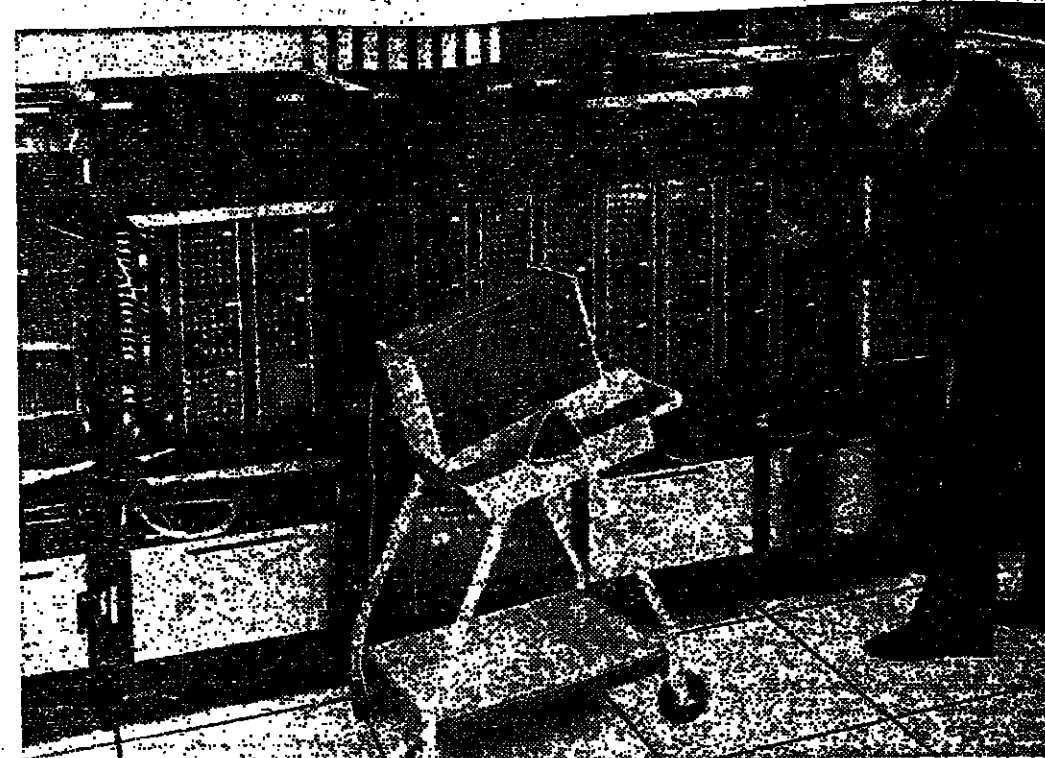
CII-Honeywell-Bull recently produced an interesting set of figures based on the premise that the minimum research and development budget needed for each general purpose computer manufacture is \$100m. a year.

On this basis, it estimated the profit of a company the size of IBM would be about 30 per cent. on turnover. The profit of a company a quarter the size would be 15 per cent. of turnover, but the profit of a company one-eighth the size would be only 3 per cent. of turnover. CII-Honeywell-Bull, together with its U.S. parent, comes into the second category, but ICL and Siemens's computer division come into the third size grouping which should, in theory, be barely profitable.

## Struggle

From this the CII-HB men argue ICL should consider coming in with the French-American grouping or at any rate consider some partner for the struggle of the 1980s. ICL could justifiably retort that the theoretical analysis has not been borne out in practice, since its profits have been much better than 3 per cent., and show every sign of continuing to be healthy. The data processing division of Siemens, on the other hand, has not been profitable in the past few years, though it has shown signs of improvement recently.

One reason that smaller companies have been able to do better than the CII-HB analysis suggests is that they have tended to specialise either by geographical area or by product or a combination of both. They have not therefore had quite the same marketing and service overheads of companies which have spread their nets more widely. Another reason is that development budget needed for the data processing market has continued to expand so rapidly that there has so far been room



The 470V/5 high speed general purpose computer designed for large scale data processing being tested at Amdahl in California.

for everybody to grow. This protectionism was probably necessary to the ambitions of each country to build up a further concentration in future. The Fujitsu group, thus, has achieved a respectable size in comparison with IBM. One reason is that the continuing development of miniature components is likely to lead to a new generation of large computers being developed in the 1980s. This development to take advantage of cheap high performance microprocessors and very large semi-conductor memories, will require a heavy expenditure on research and development both for the hardware and the software.

When the new systems start to emerge, manufacturers will once again have to go through the problems of upward competition after the Americans have taken their share. It is only about 11 per cent. of the world market. By comparison U.S. expenditures of data processing represent 57 per cent. of the total and Japanese, 9 per cent.

It is obvious from these figures that a heavy concentration of forces would be needed to take on the might of IBM (which has 60 per cent. of the West German market alone) combined with other U.S. companies. Such a concentration has been achieved in Japan where the Government has helped to form a consortium of

the three major manufacturers under the leadership of Fujitsu and is believed to favour further concentration in future. The Fujitsu group, thus, has achieved a respectable size in comparison with IBM. One reason is that the continuing development of miniature components is likely to lead to a new generation of large computers being developed in the 1980s. This development to take advantage of cheap high performance microprocessors and very large semi-conductor memories, will require a heavy expenditure on research and development both for the hardware and the software.

Since Europe as a whole represents only 27 per cent. of the world's data processing market (estimated at about \$54bn. worldwide in 1978), the proportion left for indigenous companies after the Americans have taken their share is only about 11 per cent. of the world market. By comparison U.S. expenditures of data processing represent 57 per cent. of the total and Japanese, 9 per cent.

It is obvious from these figures that a heavy concentration of forces would be needed to take on the might of IBM (which has 60 per cent. of the West German market alone) combined with other U.S. companies. Such a concentration has been achieved in Japan where the Government has helped to form a consortium of

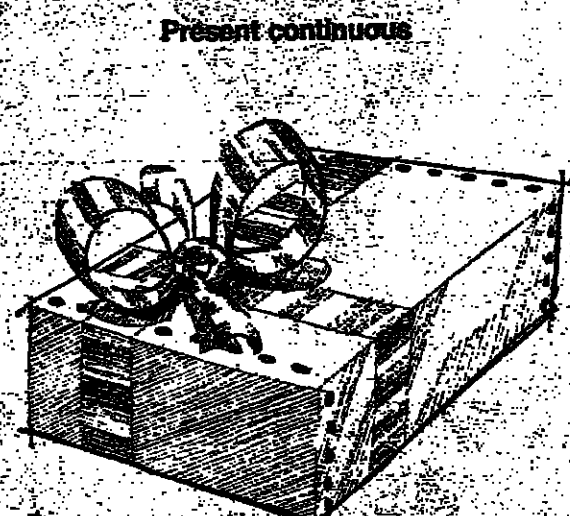
When this happens, it may be that the barriers between different machine systems which at present separate companies may seem less formidable. New groupings could then emerge more easily.

One obvious grouping, which has been much discussed over the years in Brussels would be a pan-European computer company consisting perhaps of ICL and the data processing divisions of Philips and Siemens. The possibility of French co-operation has become much less likely since CII withdrew from the European Unidata in 1973-76 and threw in its lot with Bull and Honeywell Information Systems. The collapse of Unidata, formed out of CII-Bull, Siemens and Philips has, indeed, given even the most enthusiastic pro-Europeans pause for thought.

In any case Siemens has been developing large IBM-like machines whose systems differ markedly from those of the new ICL range. A more natural grouping might be for Siemens to throw in its lot with Fujitsu which has also developed IBM-compatible machines.

Such a regrouping would, however, leave Europe without any independent large general purpose computer company, since Philips is now concentrating on small systems. It would be a very different result from that which the main European governments have been trying to achieve through massive subsidies and protectionist procurement policies.

In France, Germany and in the U.K., it has been taken as axiomatic that a strong independent computer company is a strategic necessity, strategic in an industrial sense, but in the long term also from a military point of view. Each country has poured subsidies into main-frame companies, which have all been through periods of difficulty and loss-making. At the same time the governments, as one of the major purchasers of computers have either tacitly, or as in the U.K., explicitly followed a policy of purchasing from their national company. The main effect of these procurement policies has been anti-American, or more particularly anti-IBM, since it was considered impossible for fledgling companies to thrive unless the great American eagle was fenced out.



Our continuous linkage software speeds your computer output. Adds to the total efficiency of your computer operation with specially designed to your specific needs.

**Multi-Sata Limited**  
The total service to the Computer Industry  
234/248 Old Street London EC1V 9DD  
01-253 6842  
and at 146 Athena Avenue,  
Elgin Industrial Estate Swindon Wiltshire SN2 6DU  
0783 694448

Market Data for the Computer Industry

Write to:  
**INTERNATIONAL DATA CORPORATION**  
**IDC EUROPA Ltd.**  
**2 BATH ROAD**  
**LONDON W4 1LN**

for information before you need to know  
Research/Analysis/Reports/Statistics/Newsletters



## THE COMPUTER INDUSTRY III

## The Japanese enigma

IS a wry saying in the computer industry that in ten years only three manufacturers will be left: IBM, the Japanese and one other. The saying which is often repeated shows little doubt about the present position of the computer industry in the U.S. and Europe. In the U.S., the Japanese have been making rapid gains in sales and profits, and in Europe, they are beginning to make their mark. The Japanese computer industry is now a major force to be reckoned with, and its growth is expected to continue for many years to come.

On the other hand, the market for computers, unlike that for steel, is rapidly expanding. The manufacture of computers requires very little of the raw materials, and the cost of production is low. This has led to a rapid increase in the number of computer manufacturers, and the market is now becoming increasingly competitive. The Japanese computer industry is well placed to take advantage of this situation, and its growth is expected to continue for many years to come.

puters have been reorganised, with Government help, into two basic groups. The larger, headed by Fujitsu, includes Hitachi and Mitsubishi. The other main group consists of Toshiba and Nippon Electric. In terms of world markets it is the Fujitsu group which is most important, because it has developed the FACOM series of machines which are compatible with the IBM system and can plug into any IBM installation. This series was developed in conjunction with the Amdahl Corporation of America in which Fujitsu holds a 27 per cent stake. The largest in the Fujitsu range is reckoned to have about the same power and performance as the latest 3033 machine from IBM.

The Fujitsu group is therefore well poised for a major battle with IBM in conjunction with its U.S. ally, Amdahl. Delivery delays on the 3033 series could help both companies to obtain orders from large installations which have IBM machines. At the same time price cutting could help to win customers away from other manufacturers into the IBM or IBM-compatible camp.

It must be remembered also that although Japanese exports are relatively small, its home market is the second largest in the world, almost half the size of the U.S. domestic market and roughly the same size as the whole of the European market. On the other hand, about 27 per cent of the Japanese market is held by IBM compared with about 38 per cent of the home market which falls to the Fujitsu group.

It is clear, therefore, that at least some of the impetus behind the development of the Japanese computer industry was, and remains, the need to defend itself against IBM. The component research project was certainly inspired partly by the

fact of what IBM could do with its components on a single chip. **Motive** Whatever the motive originally, the research thrust and the rationalisation of the Japanese computer industry which resulted has put the major manufacturers in a strong position vis-à-vis Europe, where attempts at co-operation between the indigenous companies have largely failed. The collapse of Unidata, an attempt to weld French, German and Dutch manufacturing capabilities together, has left the European computer companies fragmented by national boundaries. Of the large mainframe companies, only ICL in the U.K. has a securely profitable base. Yet ICL has the major disadvantage compared with Fujitsu that it serves a "captive" home market of only about a fifth the size of that in Japan. In France

purely economic point of view, labour needed in both the manufacturing process and in subsequent maintenance of the systems is very severe. Labour implications are therefore likely to be a significant brake on the development of this market. **Predictions about the future of the computer market** are notoriously difficult to make, partly because of the uncertainty about what will happen to computer sales during a recession. During difficult economic periods, Governments and the larger companies obviously have less money available for investment of all types, including that in computers. Companies may also see less need for the improved output which computers can produce.

On the other hand, a recession puts a squeeze on costs which may provide the motive for investing in an automatic system which will reduce direct labour. Even this general point is complicated by the fact that in Europe at least, Governments and the larger companies may find it politically difficult to shed labour during a time of high unemployment. It may happen, therefore, that the pressures which, from a

First small microcomputers (computers on a chip) are increasingly usurping the functions previously reserved by the mini-computer manufacturers, particularly in process control and other specialist applications. At the same time, the mini-makers have been retreating with their own small machines like the Digital Equipment Corporation's LSI 11, a mini-computer the size of a biscuit tin, which has the advantage of the considerable software back-

Europe. Software now represents about half the cost of a computer, and the software required for a particular application is often of crucial importance to a customer choosing between rival tenders. In this area of applications software, the Japanese are in general handicapped by the difference between Western and Oriental business procedures and more particularly by the language barrier. This deficiency represents a possible major opportunity to the British and American software houses which specialise in writing programs, but do not manufacture computers. Indeed, the Japanese Ministry of Trade and Industry (MITI) has recently made an informal approach to the U.K. Computer Services Association which represents the software industry. From a purely national point of view it may be argued that British software expertise should not be used to help the Japanese to compete with the British manufacturer, ICL. On the other hand it will be said that a partnership with the Japanese would be a way of securing an important slice of business for the U.K. if and when the competition intensifies.

One certain trend that can be discerned through these uncertainties is the change of emphasis from hardware to software, which is likely to continue for at least the next ten years. The rapid fall in the price of components, which will continue with the development of very large scale integrated circuits, will reduce the added value of hardware. As a result most manufacturers are increasing their emphasis on the provision of complete systems in which software can be about 50 per cent of the total cost. These are considerations governing the outlook for the next decade. In the shorter term, most manufacturers are looking for a steady growth continuing at about last year's healthy level. In 1976, the U.S. consultants Arthur D. Little estimated the installed base of general purpose computers worldwide to be about \$87bn, of which just over half, about \$46bn, was in the U.S. Last year this had grown to \$52bn in the U.S. and \$48bn in the rest of the world. By the end of this year the installed base is expected to be \$57bn in the U.S. and about \$54bn in

the rest of the world. IBM is reported to be generally optimistic with an almost embarrassingly long order book for its new 3033 series of large mainframe suppliers. IBM, by its entry into the mini-computer market, is clearly hedging its bets. International Computers in the U.K. has for some time been looking at the possibility of buying into the mini-computer market though so far without any definite move. It has, however, acquired the European business of Singer office systems. It is not obvious, however, that the cheapening of computer power and its extension into smaller and smaller pieces of equipment will lessen the need for large machines. In the first place, lower prices are expected to bring a rapid growth of computing to new applications. Secondly, the increasing numbers of intelligent terminals, small business systems and process controllers will themselves throw up more and more data which are available to be analysed by more sophisticated machines. Large central machines will be needed to control the expanding network of federal processors and to sort out the significant statistics from the mass of data that they will be sending back to the centre. The increase in computing will therefore itself create the need for yet more computing.

One certain trend that can be discerned through these uncertainties is the change of emphasis from hardware to software, which is likely to continue for at least the next ten years. The rapid fall in the price of components, which will continue with the development of very large scale integrated circuits, will reduce the added value of hardware. As a result most manufacturers are increasing their emphasis on the provision of complete systems in which software can be about 50 per cent of the total cost. These are considerations governing the outlook for the next decade. In the shorter term, most manufacturers are looking for a steady growth continuing at about last year's healthy level. In 1976, the U.S. consultants Arthur D. Little estimated the installed base of general purpose computers worldwide to be about \$87bn, of which just over half, about \$46bn, was in the U.S. Last year this had grown to \$52bn in the U.S. and \$48bn in the rest of the world. By the end of this year the installed base is expected to be \$57bn in the U.S. and about \$54bn in

## Estimated

It is expected to continue the record of the past few years of 15 per cent a year growth. Sperry Univac is forecasting steady growth, as is Honeywell, which has had a record year in the U.K. International Computers reported a 30 per cent increase in profits to £30.3m, and is expecting to continue its growth pattern in the current year. In Europe as a whole the computer systems market is estimated by Macintosh Consultants to be \$5.1bn in 1976, which is forecast to rise by 60 per cent to \$8.2bn by 1981. However, production lags well behind the market, largely because of U.S. imports. Macintosh puts total European production in 1975 at \$4bn, rising to \$5bn by 1978. Production in France, Germany and the U.K. each accounted for about a quarter of the total in Europe, which the remaining quarter divided between all other countries. Production in the U.K. is put at \$913m in 1975 rising to an estimated \$1.1bn by 1978. In the microcomputer area, Motorola forecasts the market will rise to \$870m in 1981, of which \$350m would go to the industrial sector. The consumer sector is expected to be influenced by the increasing use of microprocessors in the car industry with total spending estimated at \$300m. The computer industry is expected to absorb \$170m, and Government purchases \$50m. One of the keys to the development of the microprocessor market, which in turn influences the computer market, will be the development of cheaper software. Companies are now looking at ways of incorporating software onto chips in ways which will make applications programming much easier. As yet, however, there is no simple solution to the problem of providing reliable programs which can match the high performance and low cost of the micro-computer.

M.W.

# We're on your side.

To our way of thinking, the computer business is all about people. People in small or large organisations who handle new projects and new ideas. Guiding them to success calls for something more than off-the-shelf solutions. It calls for a computer company that understands. That company is Honeywell. It goes without saying that we have the hardware and the software developed through years of experience. But it's what we can do for you that really counts. We don't know until you tell us. So now's the time to talk. Person to person.

## Honeywell

The logical answer

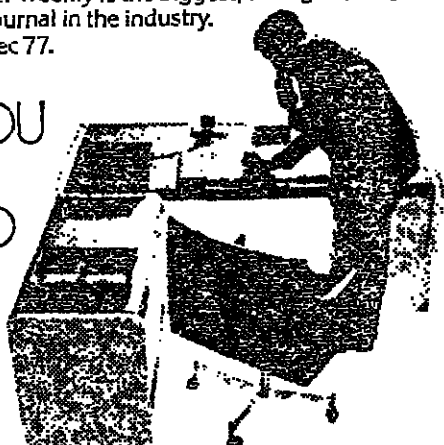
Honeywell Information Systems Limited, Honeywell House, Great West Road, Brentford, Middx. 01-568 9191.



## LOOKING FOR THE COMPUTER PROFESSIONALS WHO REALLY MATTER?

Maybe you're looking for the decision-makers who specify computer equipment and services.  
Maybe you want to recruit experienced DP managers, analysts or programmers.  
Whichever, they share one common factor: Computer Weekly. It's the one computer newspaper that is personally requested by no fewer than 74,329\* computer professionals in Britain.  
Its editorial span covers the whole computer community. It's expert, enlightening, entertaining — and it really does get read.  
Which is why we carry more display advertising, for more clients, than any other computer publication in the country.  
At the most cost-effective ad. rate in the business.  
Computer Weekly is the biggest, strongest, longest-established journal in the industry.  
\*ABC July-Dec 77.

ALL YOU  
HAVE  
TO DO  
IS ASK  
IN

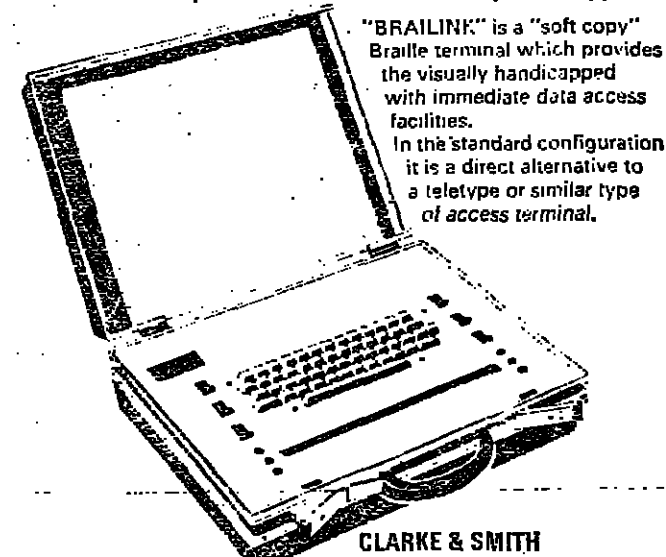


### COMPUTER WEEKLY

For display advertisers, Harry Hutson is waiting for your call on 01-261 8359 8503. He'll be pleased to advise on forthcoming editorial features and supplements especially relevant to your products. For recruitment please contact Mike White on 01-261 8028 8058.

### BRAILINK

A Braille Computer Terminal for the visually handicapped



"BRAILINK" is a "soft copy" Braille terminal which provides the visually handicapped with immediate data access facilities.  
In the standard configuration it is a direct alternative to a teletype or similar type of access terminal.

CLARKE & SMITH  
INTERNATIONAL LTD.  
WALLINGTON, SURREY, ENGLAND. TEL: 01-669 4411  
TELEX: CASINTG 22574 TELEGRAM: ELECTRONIC WALLINGTON

### IBM SOFTWARE

5110 New powerful office computer  
System 32 Compact batch processing computer for the expanding company  
System 34 Multiprogrammable screen based system for on line applications  
The above represents the hardware  
MPL Computers provide the software  
Standard packages for most accounting functions. Special systems for Practising Accountants and Solicitors.

MPL COMPUTERS LTD.  
Kingsditch Lane,  
Cheltenham.  
Contact: JOHN BAYSTON 0242-37636

### Computerised Management Systems for DENTISTRY, MEDICINE & HOSPITALS

Enquiries to the specialists in the medical and para-medical fields;  
Dentron Computers Ltd, 22 Harley Street,  
London W1 Tel: 01-637 0494

## THE COMPUTER INDUSTRY IV

# Security and privacy

THE VAST and increasing stores of data which now cover almost every aspect of personal and business life can be the subject of a whole series of abuses and accidents which are becoming a matter of public concern.  
Efforts to protect data fall roughly into two related categories: those concerned with Privacy and those of Security. The hazards range from accidental loss or damage to computer files to the improper manipulation or use of data for criminal gain or undesirable social purposes.

The issues of privacy and security are to some extent overlapping. For example, stolen files from a banking system could be used by a mail order or credit house to pry into personal finances of clients. On the reverse side of this coin, police may wish to use computer data for crime prevention in a way which some people would consider infringes personal liberty.

The issue of privacy has been the more widely aired because it concerns the general public; and abuses in this area are a more obvious direct threat to democratic liberties.

### Criminal

The scale of the problem can be grasped from the fact that the Government now runs more than 200 different computer data banks, and the average citizen appears on about 30 of them. The records range from income-tax and National Insurance particulars, driving licence and health details, to the criminal records held by the police.

In most of these cases little objection can be made to the substitution of magnetic disc storage for mountains of paper files. The danger arises from the possibilities of cross-referencing the files and the rapid access which computers make possible.

Unless safeguards are built into the systems, it could become possible for a local policeman or tax inspector to obtain a complete print-out of an indi-

vidual's personal and financial history. The possibilities for bureaucratic abuse could then be endless. Even blackmail could result if petty officials were to discover unsavoury details of a citizen's financial, medical or matrimonial history. It is desirable, for example, that a person stopped for a traffic offence could find his whole personal history called up on to a portable terminal in the police car? Such a development is not only technically feasible, it may even be considered likely.

The dangers have often been compared with George Orwell's 1984, and it is a comparison which is by no means too far fetched. There can be little doubt that computers are already used for repressive purposes in the Soviet bloc. However, it is probably true that the safeguards against this type of wholesale abuse must lie in constitutional stability rather than in an elaborate series of rules of computing procedures.

A greater danger in the West is probably the "well meaning" abuse of data banks by bureaucrats. For almost any infringement of liberty can, in a particular instance, be justified in the name of efficiency. Take, for example, the example of a town planning department which wanted to draw up a profile of the residents in different areas. Information from the social services, rating and education departments might all be collated from different data banks, with perhaps indexes of deprivation and estimates of income. The computer might then be asked to calculate on various criteria which houses need to be knocked down.

The computer might even be asked to print out details of individual residents in a certain block due for demolition. The danger of this is partly that what ought to be essentially human judgments can be given a spurious objectivity. An index of deprivation may look like a scientific quantity, but it really depends on the fallible judgment of a social worker

who originally collected the statistics. The resident being judged has no means of challenging the judgment because he does not know he is being judged. Even when the final decision to demolish his house or street has been made, it may be impossible for a resident to disentangle reasons based on digits stored in some remote, mysterious, spinning disc.

There are therefore strong grounds for insisting that personal data stored on computers should be restricted to a limited, definable use and not transferred to other files without very strict safeguards.

### Scrutiny

This point was recognised explicitly in the 1975 White Paper on Computers and Privacy which said: "The time has come when those who use computers to handle personal information, however responsible they are, can no longer remain the sole judges of whether their own systems adequately safeguard privacy. The safeguards must become subject to independent scrutiny."

A code of standards has been suggested which basically tries to ensure that only relevant and accurate information is encoded, that individuals have a means of discovering what is filed about them, and that data bases are used only for specified purposes and only available to specified interests.

The fundamental point which is still not adequately realised by many who use computer data is that computer memories lack a very important quality built into the human memory — forgetfulness.

Forgetfulness is an essential part of the common sense which most people apply to their memories. For example, if a man fell into debt ten years ago, his creditors will forget the fact if he becomes reformed subsequently into a regular payer. A computer will not forget, unless specifically told to do so. As a result a minor slip

up or infringement can dog its perpetrator through the years long after it has become irrelevant. Those who obtain a print-out of a person's history may have no means of judging the significance of each entry.

These aspects of privacy merge with security when the possibilities of unauthorised access to computer files is considered. A study by the Stanford Research Institute of California, indicates that the most common abuses happen during the manual handling of tapes or discs.

A variety of security measures is commonly used to prevent the wrong people getting into the computer room or removing files. Special passes, keywords, codes and the physical presence of security men are all used. However, the growing move towards distributed processing and remote terminals means that physical security measures are not always adequate. Safeguards must be included in the programs themselves to ensure that only authorised people can gain access to data. It is relatively easy to arrange codes which will defeat a non-skilled operator. The problem of outwitting a criminal programmer is much harder, however. And attention has recently been turned to providing operating systems which prevent programmers gaining access to data or to programs unless they are specifically authorised to do so.

On the other hand all security measures, particularly those which are integral with software, inevitably have a cost penalty. Some security measures which have been proposed would enormously increase costs (and inconvenience) in large data processing installations.

Future discussion therefore needs to strike a realistic balance between what may in theory be desirable and what companies and Government centres can be expected to afford.

M.W.

## Computers- Have confidence in us.

Owning a computer and the development, implementation and maintenance of computer systems is a costly business.

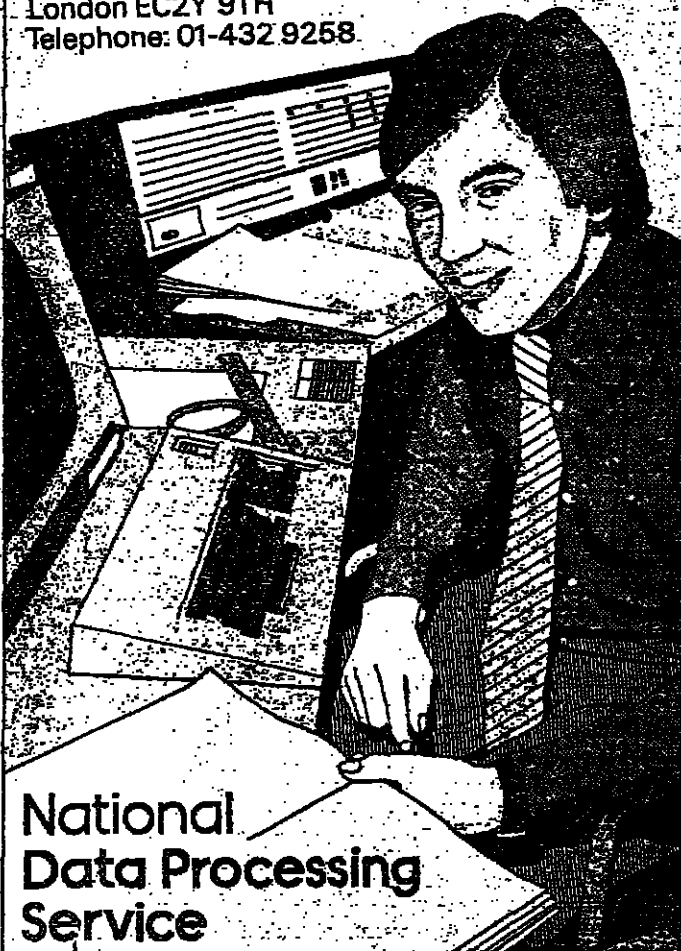
A bureau service is the answer.

The National Data Processing Service is the commercial arm of Post Office computing. A bureau that provides access to the resources of one of the largest computer users in the UK. Companies seeking computer capability can have confidence in services provided by professionals with twenty years experience.

We can work with you or for you. On a nationwide scale. Or as a local operation. You name it. We'll do it. Cheaper than you think.

Get our computer on your side — phone 01-432 9258.

Sales Manager  
National Data Processing Service  
Tenter House, 45 Moorfields  
London EC2Y 9TH  
Telephone: 01-432 9258.



National  
Data Processing  
Service

## Power of the micro

THAT THE equivalent of a \$100,000 computer of ten years ago has been reduced to about the size of a capital O on this page at a cost of \$10 to \$20 is wonderful enough. The prospect that the same process will be repeated in the next decade is almost frightening.

Micro-computers a few millimetres square already exist with the capability of controlling an installation worth some £250,000. As the price continues to fall and performance increases, such microprocessors will find their way into more and more applications, often replacing the traditional mini-computer.

Although microprocessors have been available since 1972 when Intel marketed the first production chip, it is only in the last 18 months that a complete "computer on a thumbnail" including a relatively long "word" length and memory store has become available. Although the most sophisticated microprocessors are relatively expensive, the simpler versions suitable for process control or small business and domestic machines are falling in price to only £1 or so.

Yet in spite of the falling prices and the rapid growth of microprocessors many people have failed to realise the enormous implications for society and industry. It is indeed arguable that the invention of the microprocessor and the associated integrated circuit technology will prove to have been as important as the development of the steam engine.

It will bring the power of digital computers to bear on almost every part of life. They will be found controlling a huge range of machines and appliances. They will make many traditional industrial practices obsolete, and because of the large increase in automation that will become possible, they will cause a major upheaval of the labour market.

Some of the more enthusiastic predictions about the effects of microprocessors sound like science fiction, but the capabilities of this device are potentially so great that they are limited only by the imagination of engineers.

In one crucial respect, microprocessors and other miniature circuits are unlike almost all

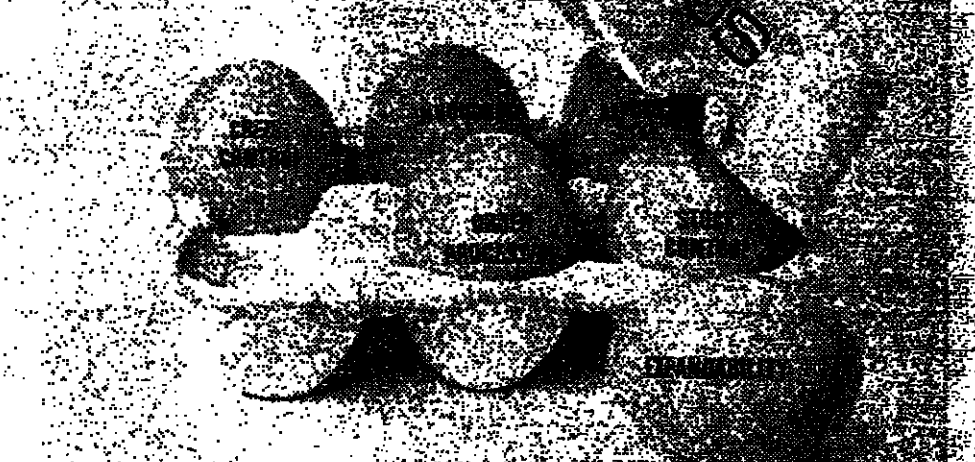
previous technological developments. That is, within limits, the price is independent of their complexity but is governed largely by the volume of production.

This is because integrated circuit production is highly automated and the basic raw material—wafers of silicon—is cheap.

The microprocessor is made from a very large-scale drawing incorporating thousands of transistors and other circuit elements with their interconnections. This drawing is photographed and then reduced to a few square millimetres. The photographic image is used to etch the circuit design on to a thin wafer of silicon. The silicon is then bombarded with impurities in an oven in such a way that the impurities fuse into the silicon and form a pattern of transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including the connections are implanted on the wafer. Because of the very small size of each circuit

CONTINUED ON NEXT PAGE

## MICOS protects your business interests



MICOS is a combination of hardware and software which provides the security you feel you ought to have from a computer system.

Designed for business data processing applications, MICOS system can handle all aspects of business management and accounting problems, and also protect your business from one system to another.

The MICOS system distributes data processing to local sites to solve local problems and also, if required, provides centralised information through mainframe communication.

MICOS is designed to fit into your business environment with the minimum of preparation. The conversational mode of operation means that your staff are able to operate the system with little formal training.

Supported by an experienced team, MICOS has been installed in many different applications areas and there are 600 installations in

the United Kingdom and Europe. In fact, there are 50 installations throughout the world operating a MICOS system, making it the most widely used business data processing system.

If you are reading this advertisement, you are already a MICOS user.

If you need a business system, you need MICOS.



minicomputer systems

## How to fix a spanner with a computer.

Every business has its fair share of spanners. Some of them keep cropping up in the most unfortunate places. And when they don't, they invariably cause somebody a headache.

At Sperry Univac, we've developed computerised systems to catch the spanners before they do any serious damage.

They're unique systems, based around our famous 90 and 1100 series computers,

with their sophisticated capabilities.

From the largest to the smallest.

Sperry Univac Mini-computers. For the small company that wants to get bigger, as efficiently and profitably as possible.

Other computers have been designed for use by existing staff. They can cope with anything from invoicing to stock control.

And what's more they'll see you well into the future when the company is bigger, without costing you the earth now.

You can learn more about all Sperry Univac Computers and systems by writing to The Marketing Director, Sperry Univac, Ltd., Headquarters, London NW10 8LS. Tel: 01-961 2110.

SPERRY UNIVAC  
COMPUTER SYSTEMS  
SPERRY UNIVAC IS A DIVISION OF SPERRY RAND LIMITED

هناك من الأهل



# French on the attack

**WILLY BEFORE Christmas** most recent of a number of reports set up over the ten years to suggest how the British computer industry should be helped to expand its report.

was the Computer Sectoring Party, reporting to the on what should be done an industry which has a ver of well over £300m. a work force of 46,000. to must be added the £250m. from the services industry employment is around

prime consideration of W.P. report was the con- g deterioration in the ce of payments situation: computers with 1976 return- 143m; in the red and 1977 bly near £200m. But the also underlined the fact: he hardware industry was ated by the U.S. multi- als who between them yed 60 per cent. of the ter hardware, labour It did not directly link his statistic the fall in ver from £3,000 to 1971 90 in 1977 despite a very crease in output of more 00 per cent. said the multinationalals be given "every encour- it to play a positive role ational strategy." It was necessary to clarify their al for contributing balance of payments.

re he same time ICL, which U.K. market share of 15 per cent., but only 5 out of world markets, nder a blanket assertion SWP that it was "essen- U.K. should have a sub- and competitive ous computer hardware vice industry."

Working Party estab- in objective to achieve a

favourable balance of trade of £200m. by 1980, in terms of 1976 values. This would mean moving from a negative balance of -£200m. in 1977 to the above figure in three years, on a swing of £400m. on a U.K. turnover rising from about £200m. to perhaps £1,400m. in the period.

How this can be done is not indicated other than by saying recommendations on Govern- ment procurement policy should aim at substituting imports and stimulating exports. Also major non-U.K. multinationals should be encouraged to invest in the U.K. and in particular should sustain industry employment levels and contribute towards the reversal of the current substantial balance of payments deficit.

Two further points of con- siderable importance emerged from the GWP report—that members were concerned at the lack of an adequate U.K. base in advanced components and at the length of time between invention and exploitation, particularly of defence equipment with a business potential.

There seems to be here no formula that will, by the end of the decade, stop the drain of currency on imported products that could be made in the U.K. let alone reverse the trend which has been downhill since the beginning of the 1970s, against all the odds and the entrenched might of the big U.S. companies with their massive home market protected by policy walls and far more difficult to scale than any tariff barrier. But one company with 5 per cent. of the world market and 9.8 per cent. of the European market cannot be expected to work the NEDO miracle however much procurement protection is accorded it.

One valuable statistic here is from P.M. Computers and Telecommunications—Fictel—which shows shipment values for minicomputers, small business systems and terminals in Europe roughly equal to shipments of mainframe computers in 1977.

Thereafter to the installed

base of 41,700 in Europe 6,240 machines of the general purpose class will be added in 1978, 7,060 in 1979 (13 per cent. up), 8,020 in 1980 (14 per cent.) and 9,120 in 1981 (14 per cent.). Allowing for withdrawals the 1981 base would be 63,000 machines.

However, the value growth each year would be respectively 15, 16 and 17 per cent., taking the delivery figure from \$4.68bn. in 1978 to \$7.27bn. in 1981. And the mini/small business systems intelligent terminal market is believed to be growing at rates of between 30 per cent. and 40 per cent. depending on which country is considered. Supposing they start level pegging in 1978 the total value of such shipments by 1981 could be well over \$11bn. or some \$4bn. ahead of mainframes.

It is almost certainly considerations of this kind that prompted the French to throw in the sponge, so to speak, nearly three years ago when they withdrew CII from the tripartite arrangements with Philips and Siemens and made a deal with Honeywell to set up an organisation which would be more under French government control, yet have access to the latest transatlantic development at far less cost. Although it must be said that the grants and guaranteed public sector sales add up to several billion francs, the move has led to a group holding of 10 per cent. of the European market in 1977 in terms of value.

## Negotiations

But while this was being achieved—and the negotiations were long and painful—the word "péri-informatique" was coined by the French civil servants who were charged with putting the country on the world computing map. The term designates virtually anything outside traditional general-purpose machines and in particular minis, peripherals of all kinds and software.

The French attacked the problem of reorganising what was left of the market after the CII arrangements and set themselves the task of grouping appropriate companies in mini

manufacture, software, teleprocessing and peripherals and providing growth support.

They set themselves the ambitious target of achieving an 80 per cent. indigenous supply to the corresponding domestic market by 1980.

The equivalent of the Department of Industry started negotiations in mid-1975 with several groups on the basis of the now well-known growth contracts "contrats de croissance." This provides aid to healthy companies under the proviso that they grow at 30 per cent. a year and export 30 per cent. of their product.

SEMS was one of the first set up under the Thomson-CSF wing and comprising the mini interests of CII and Telemechanique. It has been particularly successful since in the 1976/1977 financial year it reached a turnover of Frs.1.4bn. or about the same as that of CII Honeywell Bull.

The last two of the seven groups have recently signed the appropriate undertakings with the French Government and if all do as well as SEMS, albeit under a Government purchasing umbrella, the 80 per cent. target could be reached before 1980.

What it will cost the French

or "chip," a large number can be manufactured simultaneously on each slice of silicon (usually about 4 inches in diameter). After processing, the slice is cut into tiny squares, each one a complete circuit.

Because of the heavy development cost for each chip manufacturers have every incentive to try to standardise designs and to achieve mass sales of each component where possible. It was this need which fathered the microprocessor, a general purpose computing circuit which can be programmed to many different applications. Because of the need for high production volumes, many manufacturers have orientated their designs towards consumer markets.

However, by its nature the microprocessor leaves the development of applications to the programmer. Programs can be written which replace almost any electrical or mechanical control function, like a washing machine timer or the carburation of a motor car, but the programming is often extremely difficult.

One reason is that the simpler microprocessors suitable for such control must be programmed in machine language, which specifies every single movement of electrons in the device. Since the average programmer can write only about one to five

exchequer is a complex calculation. But it cannot be much more than £100m. for the whole five-year programme of support and this will be recouped very quickly through improved returns from the beneficiaries and from exports.

Germany has also put a great deal of money into computing while Japan is pumping vast amounts of money into advanced circuit design but also into very high reliability of current devices, the European VLSI project is going so slowly that it cannot hope to catch up. Yet U.S. suppliers provide 80 per cent. of the components used by European data processing equipment builders, just as U.S. controlled computer builders hold nearly 85 per cent. of the market for large scale computers, where the commission has given up the fight.

The message is very clear. If European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

European countries do not take a leaf out of the French book they will soon lose any possibility of gaining control of the "new wave" in the computer industries. Since this represents an area where the value of equipment installed is quickly outstripping conventional machinery, the situation is serious indeed.

the Synertek components group in the U.S.

Just what the EEC is likely to do which will improve the overall market position of indigenous companies is hard to see. No intra-European move in the peri-informatique section of any note has been made and will introduce many entirely new products. Television games are an example. Another is the Post Office's Viewdata system which converts the television into a computer terminal connected by telephone to a central memory store. Microprocessors will allow subscribers to communicate not merely with the Post Office computer, but to write messages which can be relayed to another subscribers' screen. Microprocessors will also allow the economic manufacture of domestic teleprinters which can be hooked up to the Post Office computer network.

The long-term effects of this communications revolution can only be guessed at. If the commercial climate is favourable, it is likely that new microprocessor-controlled equipment will, by a snowball effect, create the need for yet more "semi-intelligent" devices. It is, indeed, far from inconceivable that many homes should soon be equipped with their own computer for domestic filing and accounting, games, educational use and for hobbyist applications.

In the U.S. last year it is estimated some 50,000 home computers were sold. There are now 1,000 computer stores and about 500 home computer clubs. A complete computer can now be bought for £700, and kits which add on to the domestic television, for as little as £400.

Although the microprocessor will be more obvious in its domestic applications, the profounder effects will appear in factories and offices where more and more functions can be automated at comparatively low cost. The great advantage over mini-computers, which they are already replacing, is that microprocessors are extremely portable. Each micro can therefore be housed within a machine which it is dedicated to control.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Control of washing machines, cookers, central heating and burglar alarms is one range of applications. They will also be used in communications equipment, to provide automatic tuning for television and radio, to give extra facilities to the telephone receiver, and possibly to receive new channels of communication, for example from direct satellite radiation.

The telephone will almost certainly be extended to allow gas and electricity boards to read meters directly from an instrument connected to the receiver. In addition the microprocessor will introduce many entirely new products. Television games are an example. Another is the Post Office's Viewdata system which converts the television into a computer terminal connected by telephone to a central memory store. Microprocessors will allow subscribers to communicate not merely with the Post Office computer, but to write messages which can be relayed to another subscribers' screen. Microprocessors will also allow the economic manufacture of domestic teleprinters which can be hooked up to the Post Office computer network.

The long-term effects of this communications revolution can only be guessed at. If the commercial climate is favourable, it is likely that new microprocessor-controlled equipment will, by a snowball effect, create the need for yet more "semi-intelligent" devices. It is, indeed, far from inconceivable that many homes should soon be equipped with their own computer for domestic filing and accounting, games, educational use and for hobbyist applications.

In the U.S. last year it is estimated some 50,000 home computers were sold. There are now 1,000 computer stores and about 500 home computer clubs. A complete computer can now be bought for £700, and kits which add on to the domestic television, for as little as £400.

Although the microprocessor will be more obvious in its domestic applications, the profounder effects will appear in factories and offices where more and more functions can be automated at comparatively low cost. The great advantage over mini-computers, which they are already replacing, is that microprocessors are extremely portable. Each micro can therefore be housed within a machine which it is dedicated to control.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors," still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion. In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

In the past, minicomputers have tended to be used to

control a range of machines or processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in more widespread and flexible application of automatic control, in offices automatic and editing typewriters, small business computers and "intelligent" copiers are likely to gain wider acceptance. The advantages of replacing paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micro will be distributed liberally throughout the exchange network to control switching, charging, testing and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between the satellites is in turn increased



# CALCOMP

## The first name in computer graphics...

[on or off-line drum and flatbed pen plotters; electrostatic plotter/printers; digitizers; interactive graphics systems; application software]

## and OEM computer memory systems.

[removable pack disk drives; one or two headed and single or double density floppy drives; mag. tape units; formatters; complete memory sub-systems]

**CALCOMP**  
CalComp Ltd.

Cory House, The Ring,  
Bracknell, Berkshire.  
Tel: [0344] 50211

## THE COMPUTER INDUSTRY VI

# Printouts on the decline

BIG COMPUTERS are still very expensive — a fact often overlooked by those who are now thinking on cue. "But, of course, you can now buy a computer for a few hundred pounds which can do the same work as a room full of valves costing millions of pounds a decade ago."

Not only are big computers expensive, they are much more powerful than the old big computers, and they usually have to do more work. The operating systems of today's computers allow you to sit down comfortably at an interactive terminal and treat the whole computer as if it were your own.

Paradoxically, they still line up their information at a line printer, and dump it out, 1,200 lines each second. Even worse, when you find somebody with a smaller computer, you find that he has adapted his whole way of thinking — to the point of having it line up its information and dump it to a dot-matrix printer, 300 lines each second. And the final absurdity is to find a man sitting beside one of these microcomputers which you can get for a few hundred pounds, and watching it line up its data and output onto a piece of paper at one character each tenth of a second. The problem is the paper.

I like to quote a former instructor on system design at ICL, who fought a despairing battle against the line printer. He would ask his students: "What are the essential functions served by paper in the output of a computer room — apart from the obvious essential functions of the staff during the process of digestion?" — and he found that as the group worked its way through the various applications, they found more and more data that needed to be held in the computer, rather than on paper.

### Application

The only application where they felt paper output was essential was the payroll. Almost without exception, they felt that for the machine to merely transfer funds to their bank would not be satisfactory, and even if it were, they didn't like the idea of anybody being able to interrogate a video terminal for their salary data.

Our human desire for something tangible in the hand is not the only factor preserving the huge wad of print-out, but a great many apparent objections to doing away with paper archives are just rationalisations of this desire — and the security question is certainly one of these.

For example, when Honeywell invited a few guests to the opening of its super-centre in Amstelveen, near Amsterdam last year — the super-centre being a concentration of computer power within the General Electric Mark III network — it was made clear that this was the only day that anybody other than operating staff would be allowed inside the building, so stringent was security. Even a U.S. Congressman who had offered considerable business if he could personally check out the security arrangements was told that he and his business would have to stay outside.

And the security arrangements were almost frightening: not only the passwords and the need for absolute positive identification before staff could get in, not only the multitude of closed circuit TV apparatus, not only the bulletproof windows and the single door entry to the building, but also features such as all tapes being duplicated in another secure building miles away with interconnecting locks. And, said the centre staff, there were two full-time security dodgers — consultants who spent their time trying to find a way of accessing files on somebody else's program, to detect loopholes.



The Honeywell page printing system with an operator inserting a printing cylinder.

My suggestion for breaking security was to tap the telephone connection between the client and the computer centre and record all data traffic, thus getting the password and all the data.

"Well yes," said a senior executive, "we can't guarantee security outside our own premises, and that would work quite well. But we have found that many times, people who insist on the fullest security protection, passwords, daily changing codes and so on, will subsequently run their program, ask for a print-out of results at their local terminal, and then go home leaving the paper on the top of their desk for the cleaner to see."

The most damning thing about printouts is that it largely negates the power of the modern computer—to access any item of data in milliseconds. A typical job printout—apart from payroll which will always have with us—produces its biggest headaches in the head of the man who wants other people to read it. All too often, they can't be bothered.

"We've produced a fantastic spare parts stock control system," a motor dealer explains, "which not only shows us immediately when any parts are below a comfortable warehouse level, but can show us the number of times this happens in a quarter—so then we can arrange a higher warehouse level, if the part is ordered too often, or lower, if too seldom."

Unfortunately, this information was included in a print-out the size of the average family Bible—and he was just coming round to the realisation that, after six months of futile shouting at subordinates, he really needed a computer to do the job of reading through the results.

The amount of data was trivial by disc storage standards, and in his case, the only factor preventing his having all the information available to whoever needed it just by going to a terminal, was the fact that he'd invested more in a printer than he was prepared to see scrapped. Even more significant in terms of resistance to change, say the printer makers, is the cost of the paper. Not the raw material, but the design of the forms.

A printer-minded world is currently putting pressure on its suppliers to bring the costs of making marks on paper, in line with the drop in the costs of computing—and this cannot be done, because mechanical engineering is an advanced art capable of small improvement compared with the quantum jumps made each year in electronics technology. To justify the vast research and development costs of even a simple mechanical printer requires guaranteed sales of several millions of pounds.

Unfortunately, the methods of bringing the selling costs down — apart from the fact that they require sales of a great many more units to recoup the same

profit—seem to be tied to using non-standard stationery.

For example, U.S. aerospace conglomerate SCI Systems, hit upon the revolutionary idea of printing on paper which was bent into a tube—like printing on the inside of a toilet roll—so that the print head could be kept in constant motion, rather than reciprocating from left to right and shaking itself to bits. A device was developed which produced 2,200 characters per second. Unfortunately, it uses electro-arc matrix needles to form the characters on special (cheap, but special) silvered paper, not standard stationery.

Dataproducts, possibly the largest maker of line printers, claims that the multi-million dollar market for printers is outweighed by a factor of four by the stationery market. If the world could persuade itself to have very fast, cheap printers like this rotary device, it could then do all its work in front of the computer using a video display, until it found the item it was looking for—a part number, an address, a letter to the Editor, or a phone number—and then print that out in two seconds.

### Microfilm

The other area which eats into the kingdom of the big printer is microfilm. Computers are quite capable of printing directly onto microfilm, and with a little encouragement, of keeping tabs on the information produced.

It is not clear whether keeping this vast archive of filing cabinet stuffing in miniaturised form will remain cheaper than keeping it in electronic form. Holographic, low-cost semiconductor memories, permanent magnetic bubble storage, are all heading for an intrinsically lower cost than photographic methods of recording text.

Perhaps the sign of the times is at the other end of the com-

puter process—input. The development of low-current, low-power electronics, using the semiconductor process known as CMOS (Complementary metal-oxide silicon) has produced several data recorders which seek to replace the note-pad. A device the size of a pocket calculator can be built to record several thousand characters, say for supermarket stock-taking, and then transmit them down a telephone line to a central computer, checking for errors on the way.

It would be too easy to assume that with cheap computers, the big printer would fade out, but the evidence is that it will not. It will cease to be the prime method of retrieving data out of a computer.

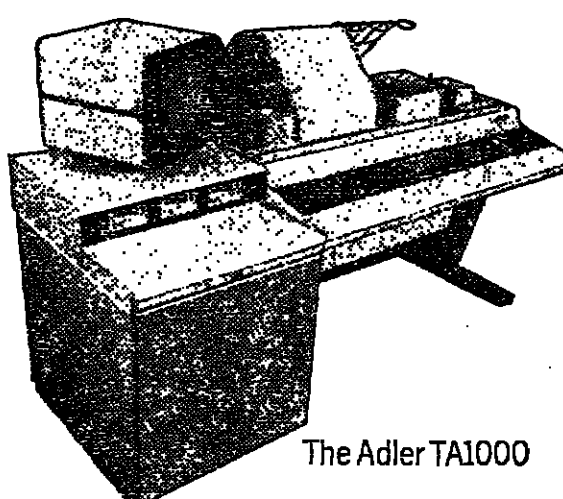
But at the same time, that quick look round the office will show several things which a big printer just has to do, with the only proviso, that a gradual improvement in the quality of the print is called for.

Documents which need to be carried will have to be printed—the driving licence is a prime example. Information held in other people's computers will have to be printed out for us, because whatever happens to technology, a permanent phone link, available at the drop of a hat, to Germany, will cost more than an occasional print-out.

And the "window on the computer" is a device with its own very special disadvantages; unlike a piece of paper, it can turn itself off, it flickers, it is said to cause eyestrain, it might even produce radiation hazards.

But it, or a new technology version of the video screen, will win. After all, motor cars have caught on quite remarkably, despite being expensive, needing driving tuition, costing a lot in maintenance, and being dangerous as well as emitting poisonous gas—because they are convenient.

Guy Kewney



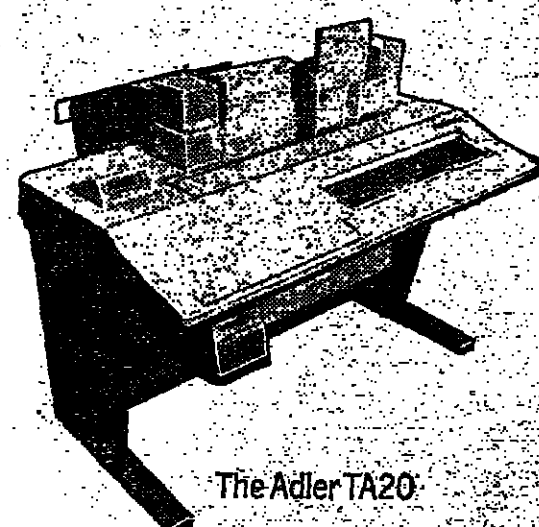
The Adler TA1000

Buying the largest computer installation you think you can afford could turn out to be an expensive mistake.

The Adler approach is different. It starts by determining, with you, what your real problems are and ends by presenting you with a complete system solution.

First the Adler software library—hundreds of application programs mean that your Adler system is installed fast and ready to work when you are.

Then, we don't sell and run. We provide training for your staff, back up services, continuing software help, advice and active co-operation. And continue to do so until you are confident that



The Adler TA20

the system is right in every detail—from our own sales offices and national network of dealers.

Finally, the factor that enables Adler to carry through this concept is the new Adler range from £4,000 to £35,000. Which means that the system can be tailored very precisely to your needs.

The smallest, the Adler TA20 will take on a complete accounting job for the smaller company, a specific application for a large one.

At the top end is the TA1000 with increased power and the ability to provide really impressive management data, run your accounts department and help you run your business.

### Adler Business Systems Ltd

#### A GREAT RANGE OF ANSWERS

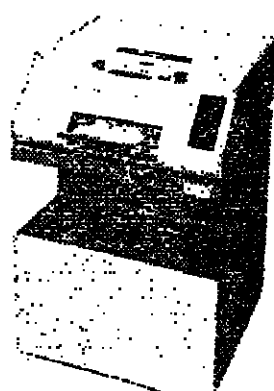
Adler Business Systems  
Jordan House 47 Brunswick Place  
London N1 6EG Tel: 01-251 2712  
Please send me full information on the new range of Adler small business computers.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
Tel \_\_\_\_\_

We won't sell you a £35,000 computer when we can sell you a £4,000 system.

## SWIFT THINKING

If you are interested in getting a greater return on investment from your communications centre, please read on...



"Automation of Words" via CompuScan and its OCR (Optical Character Recognition) page readers offer substantial cost savings, speed, and reliability to any data entry system...

In other words... CompuScan equipment ensures a greater Return-On-Investment. With the elimination and verification of re-keying, it is possible to reduce the overall costs by more than 50%, while getting better than a 75% Return-On-Investment during the first year of operation. CompuScan's OCR technology is the result of more than 8 years of OCR leadership and continuous development by CompuScan, Inc.

For more information about CompuScan Inc. or any of its products or system call, write or telex Park Road, Frome, Somerset BA11 1ET. Tel: 0373 61330 Telex: 44717



Please send me details of your Financial Planning Service. The Computel Limited, Eastern Road, Bracknell, Berkshire RG12 2UP. Tel: 0344 26767.

Name \_\_\_\_\_  
Position \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_

FT 21/2 Tel. No. \_\_\_\_\_

**computel**

**E.S.**

## FT8

IN BLOCK CAPS PLEASE

**datapak-B**  
**by ventek**  
A TRW AFFILIATE COMPANY



## THE COMPUTER INDUSTRY VIII

## Government hand on software

THE GOVERNMENT'S decision in the autumn of 1976 to set up a company to market British software abroad was the result of some very anxious discussions about the U.K.'s weakness over large areas of the data processing market.

The establishment of International Computers Limited (ICL) and the development of its new range of machines with Government assistance may have diverted Government attention from what was happening in other parts of data processing. Small business machines, min-computers, and later microprocessors started to be imported in large volume. British manufacturers had failed to get much of a stake in these large and growing markets, and by the time the alarm was raised, it was generally considered too late to make a counter thrust against American dominance.

On the other hand, the rapidly developing integrated circuit industry was causing a sharp fall in hardware prices. This fall seems set to continue for at least the next ten years, as production of components becomes more automated and more and more elements are fitted on to a single chip.

On the other hand the cost of programming is becoming relatively more and more expensive. In spite of some advances in technique it is highly labour intensive, and will remain so. Moreover, as computers become at the same time more powerful and cheaper, increasing pressure is put on the programmers to devise adequate operating systems and to develop software for the new applications which are being opened up for data processing. The development of the microprocessor has also thrown up a whole new range of programming problems.

Already the cost of software is approaching half the cost of hardware in many applications. And software happens to be an area in which British expertise is strong, and compared with the U.S. cheap. Taking an average for the whole of the data processing revenues, software now accounts for about a third.

It was against this background that the National Enterprise Board started to take an interest in the software industry as, so

to speak, a counterbalance to the Government's support for ICL. Already the French, German and Japanese governments had given substantial support to their software industries, but in the U.K. in 1976 there had been no intervention at all except for the support for ICL.

In the U.K. there were some 500 companies, most of them fairly small, producing software packages, maintaining programs and in some cases marketing equipment on a turnkey basis. The industry was in a flourishing state, largely because of the upward trend of the data processing market.

The NEB believed, however, that there was a danger that the industry as a whole would not take advantage of the opportunities for development in the world at large. It saw that the smallness of many of the software houses prevented them from investing heavily in fundamental research or the long-term development of software packages to be sold as products.

The NEB believed, moreover, that investment on a longer term basis was becoming necessary because of the move towards standard software packages as a replacement for custom-designed applications programs. The very high cost of software means that there is a great advantage in producing standard programs whose development cost can be shared between a large number of buyers.

## Difficulty

On the other hand software products of this sort need to be sold in as wide a market as possible, and like any other product they require investment capital.

The main difficulty faced by the U.K. software houses is that data processing in the U.K. represents only about 3 per cent. of the world market whereas the U.S. represents about 35 per cent.

At the beginning of 1971, therefore, it was agreed to set up a subsidiary of the NEB to market British software overseas, mainly in the U.S., and to help to stimulate the development of software products suitable for sale abroad. By the end of last year, the new company, INSAC, was formed with a maximum of 29m. of equity

capital—perhaps to be increased to £20m.—envisaged during its first five years.

INSAC has now established itself in an office in Lincoln's Inn Fields and has opened an office in New York. It has also signed agreements with four of the leading software houses which have become associates. INSAC is hoping to sign up another four to start the first phase of its operations.

From the first it was decided that the software houses which agreed to co-operate should maintain their independence. Mr. John Pearce, INSAC's managing director, explained: "This is an entrepreneurial business. The real entrepreneurs want to control their own companies. If the NEB had bought them up, the chances are some of the best people would leave." On the other hand, the NEB was anxious that it should have some stake in the associates for commercial reasons and it has negotiated to buy between 26 and 30 per cent. of the equity of the four houses so far in the fold.

Mr. Pearce explained: "We are expecting to put some fairly substantial contracts out to the associated companies, perhaps in the region of £500,000 to £1m. It was therefore thought desirable that the NEB should have a stake in the companies. Otherwise, it might happen that one of the houses could be bought by say, Fujitsu a month or two after we had given it a contract."

In return for selling part of the equity to the NEB, the four companies, Computer Analysts and Programmers (CAP), Systeme SPL (Systems Programming Limited) and SDL Systems Designers Limited each have a representative on the INSAC board. The four companies are now submitting proposals to INSAC for the development of systems for which they see a future market. When INSAC has decided on the products it wants to sponsor, it plans to put the contracts out to competitive tender among its associates.

Because of the time needed to develop and sell software products, INSAC is not expecting to make profits until its third or fourth year of operation. For the rest of this year, it will be occupied in negotiations with other British software houses and in the setting

up of development contracts, an expanding market. It is evident that an increasing proportion of the added value of systems will be in the software. So there has been a general move into software, partly by acquisition. Several large international companies, including Fujitsu of Japan, have been looking at the larger U.K. software houses with a view to possible purchase.

INSAC has agreed not to sell its products in the U.K., so it will produce, it hopes, a substantial increase in business for the British software industry. Nevertheless, its formation can to some extent be seen as a defensive measure.

In the U.S. hardware manufacturers are already beginning to see the implications of continually falling prices even in

ownership, it will not, however, be able to avoid several potentially sensitive political issues. The main point is that, a lot of the software it sells will be destined to run on machines which are in competition with ICL's. Application packages can, it is true, be written so that they will run on any type of machine. On the other hand, if a major Japanese manufacturer wanted a tie up with INSAC, the NEB could find itself in the embarrassing position of helping to sell foreign hardware against that of a domestic company in which it has a substantial minority stake.

## Sensitive

Even though INSAC concentrates on marketing British skills from companies in U.K.

## The telecommunications race

THE MARRIAGE of telecommunications with the computer, a union which still has to be fully consummated in a number of advanced industrial countries (including the U.K.) has been a massive landmark in the recent history of telecommunications development.

Its introduction in the 1960s has meant that the telecommunications authorities and the telecommunications industries of most advanced countries have undergone far-reaching structural changes. However, a feature of the changeover from the various varieties of electro-mechanical systems to computer-controlled systems has been the longevity and reliability of the former; which means, in practical terms, that they will be around for many years yet.

Besides this, the telecommunications authorities, which are overwhelmingly public bodies, tend to dominate the research and development procedures of their domestic suppliers. Thus they can effectively insist that these suppliers continue to provide electro-mechanical equip-

ment, even though the suppliers may be itching to give over their entire capacity to the computer-controlled systems. For example, the IIT subsidiary of Bell (Holland) which manufactures the Metaco 10c computer-controlled exchange, must also manufacture two electro-mechanical systems, the step-by-step or Strowger system, and the crossbar system, because of the requirements of the Dutch PTT.

## Lucrative

With that major caveat, then, the computer-controlled exchange has arrived, and is beginning to dominate in the lucrative markets opening up in developing countries—especially the wealthier ones—which are now seeking to extend, often rapidly, their telecommunications network. Recently, the Post Office chairman, Sir William Barlow, estimated that the richest pickings in the export market would be found in the 1980s—when the Post Office hopes to have its fully-electronic exchange, "System X," on the market.

First, though, what exactly is a computer-controlled ex-

change? In one sense, the question is a little difficult to answer, because manufacturers describe their products as "computer-controlled" when these products are often very different. Further, computer-controlled has been an incremental, rather than a sudden, development.

Electromechanical exchanges evolved from distributed control, as in the Strowger system, to central or common control over a long period: the arrival of electronic processors hastened and completed the trend. As Professor J. E. Flood of the Department of Electrical Engineering at Birmingham University put it in a recent paper, "As a result of developments in computer technology a single electronic central processor unit can now control a complete exchange. The use of stored-programme control (SPC) for this processor results in great flexibility both in the allocation of line terminations and the provision of facilities including facilities for subscribers and for the administration (for example fault diagnosis and network management)."

Stored programme control, the latest thing in computer-controlled exchanges, are now being progressively phased in

in a number of countries. The SPC "principle" allows the design of a highly modular system, which reduces the need to follow a strict functional "hierarchy" of exchanges. Operational, maintenance and administrative procedures can be standardised for the network as a whole, without regard for the functions of individual exchanges.

Software becomes extremely important in the design and maintenance of SPC systems. Changes in the size of functions of any given network are mirrored in the programmes for the exchange, as well as the hardware itself. The added complexity of introducing SPC is that it must be made compatible with existing electro-mechanical hardware.

## Advanced

The variety of extra facilities which these advanced systems now offer include abbreviated dialling, call transfer and information services not previously available.

The countries currently leading the SPC "race" are America—with IIT and Western Electric both offering systems. These exchanges, first develop-

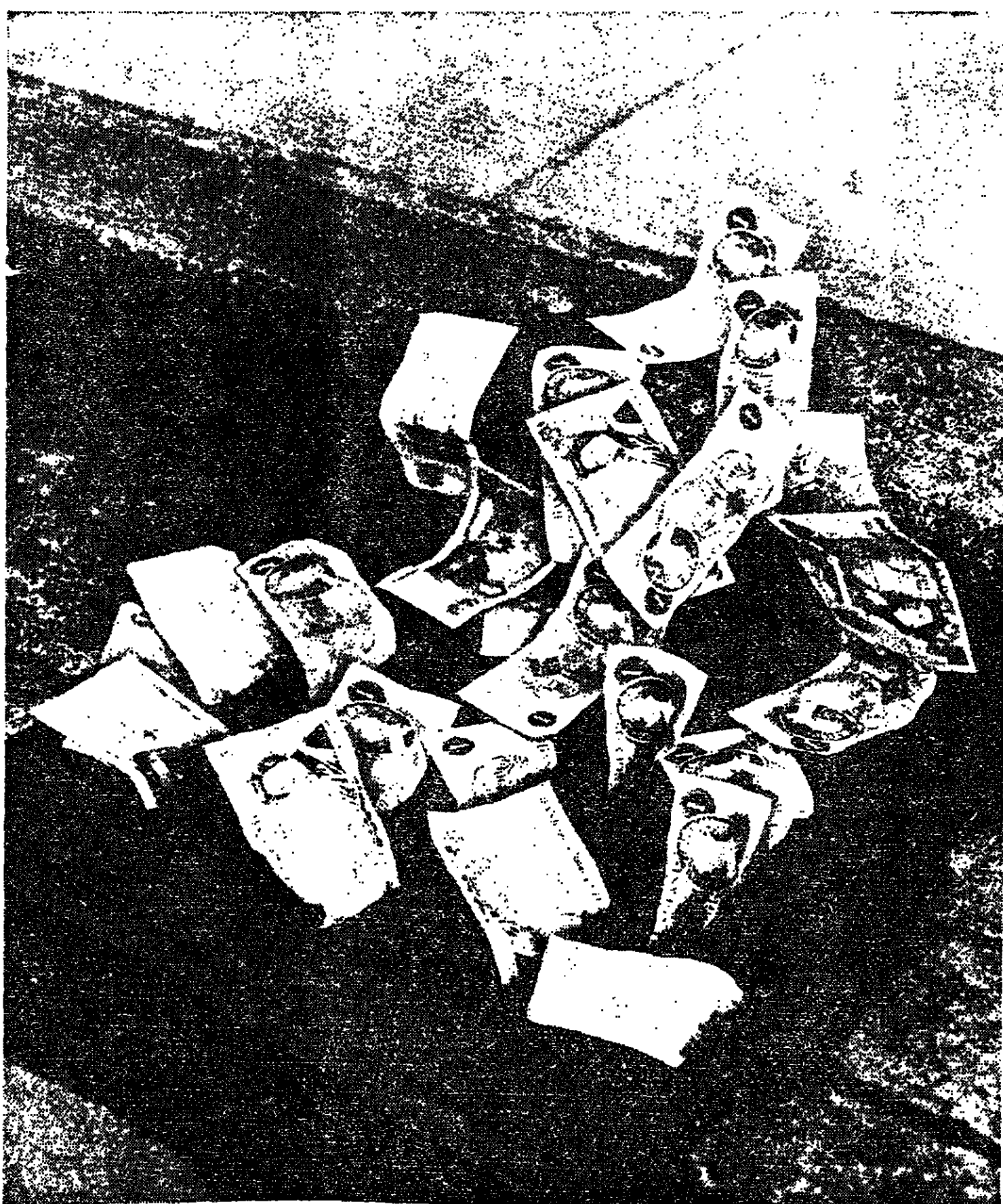
known in the U.S. and to build up a portfolio of products which it can sell.

There is little question that the U.K. has lagged in the race. The most advanced system manufactured in Britain—JDX4—is, by most definitions, not fully electronic, though it is judged as all but a development of the full electronic exchange—System X—is now going on ahead, but will not be into service in Britain before—at the optimistic estimates—1982, it will only be able to enter export battle after that.

System X is the generic name for the "family" of advanced switching and associated systems which will progressively replace the Strowger exchange. These exchanges, first develop-

CONTINUED ON NEXT PAGE

## IF YOU USE CARBON ON YOUR MINI COMPUTER-THINK HOW MUCH YOU'RE THROWING AWAY



In just one year, the average mini computer user can buy, store and then throw away as much as 7 miles of carbon paper.

And to us, that seems like money down the drain.

Because with Idem carbonless copying paper you use all the paper you buy—without throwing any of it away.

Copy for copy, Idem carbonless requires less storage space than bank, bond and carbon interleave.

That's only one of the advantages over carbon paper that Idem gives the minicomputer system user.

There are many, many more advantages like quick, clear, safe reliable copies.

\*Choice of deep blue or black image, both giving clear photo-copies,

\*Large range of weights and colours including quality watermarked original.

\*Confidentiality and security—with no tell-tale extra 'copies' going astray.

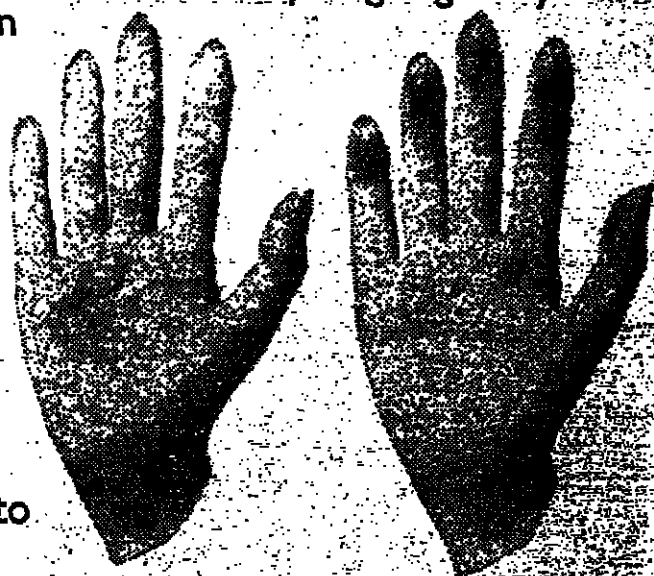
\*No dirty smudges on originals. Or on clothes and hands.

So happier operators. \*Special form designs can be tailor made to meet your exact requirements.

Because Idem was specially developed to meet the demands of the modern business systems environment, producing forms becomes a cleaner faster and more efficient operation.

So don't throw away the chance to increase the efficiency of your mini computer system.

For further information ask your printer for Idem or fill in the coupon for your free demonstration pack.



On a show of hands, Idem carbonless scores much better marks than carbon for cleanliness.

**idem**  
CARBONLESS COPIES  
**idem**  
CARBONLESS COPIES  
**idem**  
CARBONLESS COPIES  
**idem**  
CARBONLESS COPIES

To: Wiggins Teape (Hill Sales) Ltd.,  
IDEM Division, Freeport, Basingstoke,  
Hampshire RG21 2EE. Tel: (0256) 20262.

Please send me—free and without obligation—my sample demonstration pack.

Name \_\_\_\_\_

Position \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Idem is manufactured by Wiggins Teape, Papermakers in the World.

All the advantages of carbon, without the disadvantages



# THE COMPUTER INDUSTRY IX

## Thriving services sector

OVER of the computer services industry is expected to reach £300m. this year, twice as much as in 1977, according to a survey by the Computer Services Association (CSA) for 1978. The survey suggests that by 1980 sales should be £600m.

The industry has come a long way since the days of the 1960s, says Kenneth Kendall, then of B.P. subsidiary Computer Services. "The growth of the enterprise was the most interesting of the last few years," he says, "and the most interesting of the last few years."

"The lads" pulled out services coup by winning a £24m. contract to supply a complete radio communication system for a Middle Eastern government.

he work carried out in the industry is on but as the National Development Council sector working in a report issued in this month, it is "thriving."

are now such an integral part of the computer industry that the working party "concerned that the services industry is not doing as well as it should" and the development of a new act.

has also had some to say about computer services, even if it has been slow to invest in them.

A report on Investment in Computer Services, issued late last year by stockbrokers Greene and Co. said that "Despite the difficulties experienced in industry at large, and the services industries in particular, the computer services industry remained buoyant with one of the fastest growth rates of any industrial activity."

This growth might have been faster were it not for the severe shortage of skilled staff, which received much attention in the working party report. The glowing health of computing services is also a little surprising at first sight, in view of the onslaught of rapidly developing electronics technology.

The brunt of the attack has been borne by the computer services bureaux, which were founded in the mid-1960s on the principle: buy a large and very expensive mainframe computer, and sell batch processing services — like a payroll — to companies who cannot afford a machine of their own.

### Systems

But since then, minicomputer and microcomputer systems have been developed which can provide computer power at dramatically less cost, and do not need special rooms and large operations staff. Now, nearly all businesses — whatever their size — could probably afford to buy a computer system of their own.

In the past two years particularly, the bureaux have woken up to this threat to their revenue, and their newly developed activities seem to have served them well, for they report that last year's business was much better than they had expected.

The main change undergone by the bureaux is that their new range of services make them look more like software houses — and software has never been more expensive than now. The services sector generally is selling expertise, and there is more expertise in selling software services, than hiring out computer time.

The bureaux are now selling software packages and they have set up in competition with minicomputer vendors and software house suppliers of mini-computer systems by selling themselves. These turnkey systems are complete hardware and software packages tailored to perform specific applications, from office order processing, to Seicon's Middle Eastern communications system. Others have acknowledged the cheapness of modern computing by devolving power to their customers.

One of the most ambitious schemes of this kind was launched last year by Baric Computer Services, under the name Datacare. Users of the service are supplied with intelligent terminals at their own premises and can carry out some local

processing, but use the Baric mainframe for big jobs.

Baric is jointly owned by Barclays Bank, which will provide customers with finance for the service, and ICL which makes the terminals. Baric writes all the software, and claims to be attracting not only existing bureau customers, but also completely new bureau users who had been considering the purchase of their computer systems.

The bigger bureaux with the most advanced hardware have been making more of a point of the long-established practice of selling time on their machines to prospective in-house users of similar equipment. They now offer a full range of pre-delivery services, from staff training to software support.

The ICL-based bureau Computer has gone in for this in a big way by exploiting the gap between ICL's 2900 New Range computers and the old 1900 range. However, except for the ventures into turnkey systems, these activities are only modifications of existing services.

The most notable new service to be offered by bureaux in recent years, is timesharing, dominated by U.S. companies. The difference between timesharing and batch operation is that users of a timesharing service are given immediate access to the computer, through a terminal, without the delay of his job having to be submitted to the computer run as part of a batch, and then eventually returned to him.

Timesharing opens up new possibilities, and the bureaux which offer it are fond of referring to it as a management tool which will give users the information they want, when they want it, and not have to wait for a month-end report.

The classic timesharing application is financial planning.

because the user can ask the computer, "What if...?", and be told almost instantaneously.

Nearly all of the customers of timesharing services have in-house computing facilities of their own, but these are not geared to provide a timesharing service because they are too heavily committed to production work.

But for the software houses, changes have been less noticeable. The production of software is much the same as it has always been: highly labour-intensive.

Indeed, the writing of software has more in common with the way monks in the Middle Ages laboured over the production of one-off Bibles than the Information Age of the late twentieth century.

Although there will always be a market for custom-written software, it is becoming more common for companies to specialise in the production of a limited number of software products, which for example make computer systems run more efficiently, or act as telecommunications monitors, which ease the path of the computer user into the increasingly fashionable world of teleprocessing.

### Philosophy

Whatever the speciality is, the philosophy is the same: find a requirement in the marketplace, design the product, develop it, sell it, and maintain it. If it is the right product, the same package can be sold 200 times with very little modification.

Peterborough Data Processing is a software house which built up its business over 10 years by selling what is probably the world's most unglamorous software — a payroll package. It now claims to be the largest supplier of such packages in Europe, with about 300 installed. More

recently it has tripled its product range, and now offers a personnel management system, and a pension package.

The rapid rise of the microcomputer has not gone unnoticed by the software houses — the thousands of microcomputers which are supposed to flood the homes and offices of the future will all need to have programs in them.

One of the biggest ventures into microcomputer software has been by Britain's largest software group, Computer Analysts and Programmers (CAP U.K.), which in 1975 set up CAP Microbit, a subsidiary dedicated to specialisation in microcomputer software and consultancy work.

This was the first such operation in Europe, and it was followed by the announcement last year of a revolutionary new minicomputer-based system which speeds up and simplifies the production of microcomputer software. It was far ahead of anything similar, even in the U.S., which dominates microcomputer developments.

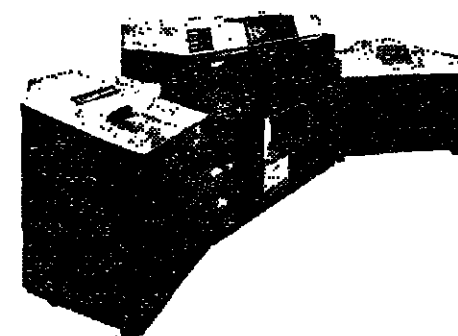
Not all software houses are as large as CAP, but in the future they will be able to afford to stay medium-sized, unlike the bureaux. It is generally expected that in five years there will only be big ones and small ones.

Today's medium sized bureau will have to merge to be able to afford the new hardware and software that will be necessary to keep up with increasingly sophisticated demands of their customers. Those that get away with staying small will be specialists, aiming at particular industries, like insurance or the motor trade, or like the small minicomputer-based timesharing services which are springing up to challenge the might of the U.S. giants.

Roger Green

## DOCUMENTATION LIMITED

THE FASTEST IMPACT PRINTER AVAILABLE TODAY FOR IBM COMPUTER USERS



### MAJOR FEATURES:-

- ★ Up to 3,000 lines per minute
- ★ 132 or 150 characters per line
- ★ 6 or 8 lines per inch
- ★ Interchangeable (maintenance free) Print Array — u.c.s. feature
- ★ Software compatible with IBM 3211 and 1403
- ★ Microprocessor Controlled
- ★ Outstanding Print Quality on up to six part forms
- ★ Automatic stacking
- ★ Integrated Controller
- ★ Ribbon Use Reduced

Cost savings up to 40% when purchased. Competitive Rental Terms. Complimentary Products include Buffered Card Reader and Card Punch Interpreter. For more information on Documentation's Computer Sub-Systems with a built in reputation for value.

Write or Call  
**DOCUMENTATION LIMITED,**  
Mill Mead, Staines,  
Middlesex TW18 4UQ.  
Telephone: Staines 61124

## ce

CONTINUED FROM PREVIOUS PAGE:

century, still serve all telephone companies in the U.K., and do so indeed, their very coupled with the high standards on Post Office insists from their suppliers. It took time and effort to establish the new relationship, and along the way a number of difficult commercial, as well as technical problems have been resolved.

Privately, the suppliers might be rather less bland about the difficulties, and rather less optimistic that all the difficulties have been resolved. However, it is clear that there is some new momentum behind the programme, perhaps generated by

### PROFIT FROM SERVICE

Suppliers of professional services or Accountants and Solicitors using customised systems through minicomputers or On-Line Mini-Computers

### ATOMIC INFORMATION MANAGEMENT LTD.

St. Mary's Court, Lowgate, Hull  
Tel: (0482) 25891  
Branches at:  
LONDON (28799) DUBLIN (987011)  
NEWCASTLE (20050)  
British Company using British Computers

### COMPUTECH SYSTEMS

SUPPLY PRACTICAL MICRO-COMPUTER SYSTEMS WITH SOFTWARE AND SOFTWARE DESIGN FOR A WIDE RANGE OF APPLICATIONS INCLUDING INFORMATION ENQUIRY AND CONTROL, STOCK CONTROL, WORD PROCESSING, DIRECT MAIL, COSTING AND MANAGEMENT INFORMATION. PACKAGES SPECIALLY WRITTEN OR TAILORED TO REQUIREMENTS. SYSTEMS ARE ALSO USER PROGRAMMABLE AND OPERATING TRAINING AVAILABLE. NATIONAL SYSTEMS WITH COMMUNICATIONS CAPABILITY.  
168 Finchley Road, London, NW2 6HR.  
Telephone: 01-794 0202.

### Speed

The implications of these new systems, which are only beginning to take physical shape, are enormous. Besides the extra speed and the large number of new facilities, they also offer economies of size and of maintenance, and will facilitate the use of such communications media as Viewdata and higher speed Datel services. The "offices of the future," which are now on the drawing boards of the major communications industries, will be brought into the present: the division of labour within offices—for example, the precise breakdown of tasks between manager and secretary—will be dramatically changed (or could be, conservatively work practices permitting). More ominously, they imply a dramatic reduction in labour on the telecommunications engineering side, a development of which the unions are not unaware. For the moment and the immediate future, growth in the network means that labour saving is compensated for: but that is not likely to be the case for much longer. The resultant problems of potential redundancies must sooner or later be tackled—a task, perhaps, for a future generation of computers.

John Lloyd

## IBM - The Next Five Years

products will IBM announce, what will its marketing strategy be, what are the implications for your organization?

International State of the Art Conference on 13-15 March 1978.

programme details of IBM - The Next Five Years, send this slip to Marian Fletcher, Information, Nicholson House, Maidenhead, Berkshire SL6 1LD. Telephone 0628 35031, telex 947719.

Name  Mr ☐ Mrs ☐ Ms ☐  
Job   
Tel. No.

# MEMOREX + TELEX MEMOREX

More Products. More People. More Service. More Expertise.

The new force in the European computer market, created by adding the highly successful European operations of Telex to those of Memorex, offers an unmatched range of products and services to the computer user.

■ For the IBM 370 user: 556, 800, 1600 and 6250 bpi tape drives; 29, 100, 200 and 317.5 Mb exchangeable disk pack drives; 70 Mb Winchester disk drives; 317.5 Mb fixed media-disk drives; add-on memories for everything from the 125 to the 168 (3030 memories on the way); terminal controllers, printers and keyboard displays; communication controllers and line printers.

■ For the IBM System/3 user: 20 Mb and 51 Mb disk drives; floppy disk drives; add-on memories; terminal controllers, printers and keyboard displays; line printers. Plus our own complete alternative System III.

■ For all computer users: Top quality Memorex tapes rated to 6250 bpi for virtually all makes of tape drive; Memorex disk packs for IBM, ICL, NCR, Honeywell, Univac, Burroughs, ranging from disk cartridges to data modules; floppy disks to suit almost everybody.

## MEMOREX

WITH TELEX EVEN MORE EXCELLENCE.

Memorex UK Ltd, 50 Salisbury Road, Hounslow, Middlesex. Telephone 01-570 7716.  
Telex Computer Products UK Ltd, 70 North Row, Park Lane, London W1. Telephone 01-629 9141.



## THE COMPUTER INDUSTRY X

# Robots ready to take over

ANYONE WHO has had to walk around the often dark satanic mills of industry will be able to think of many plants where a long-armed robot would make working conditions so much better for operatives, taking hot castings from their dies, placing sheet between the jaws of giant presses and so on. Car assembly lines, though strenuous, do not generally operate in the conditions of heat and noise that foundry workers and people in rolling and stamping mills take as a matter of course.

It is thus somewhat ironic that it will be in a brand-new purpose-built plant at Longbridge, being set up for the production of the new Leyland model, that the first large-scale use of robot welding equipment in Britain will take place.

Senior Electric Welding Machines has the contract for the construction of two vast welding lines for the Longbridge plant and this company has ordered a total of 28 industrial robots from Unimation of Telford, Salop, to go into the welding complex which will cost some £7m. to set up and program.

## Automated

The robots will include several long-reach units and a first batch will be delivered in time to be incorporated into the first of the body frame production lines when it nears completion late this year, making the new Longbridge centre the most highly automated factory in Britain.

Designers believe the plant will be a match for any European car plant and that it should allow the new Mini to be produced with far fewer rejects and to a far greater accuracy thanks to constant line checks and the precision with which line spot weld guns and the robots can be controlled.

These robots have a certain amount of intelligence which allows them to follow a sequence

of instructions which will take the welding guns they manipulate to the right spot on the vehicle body, or to inhibit the sequence if a tolerance checking station instructs them so to do.

Similar machines from Unimation will be incorporated in the Fiat production plant which is being designed around a new concept of a work "cell" constituted by a trolley operating under computer control. This vehicle picks up car parts and presents them for spot welding to the robots which are equipped to sense what type of weld the spot welds must go.

This Robogate system was initiated by Fiat's Conau machine-tool subsidiary working with Digatron of Switzerland.

It is expected to be at least as productive as the standard type of production line and far more easy to switch to variations on a basic car theme, since there will be no need to halt an expensive production line and carry out lengthy modifications. The control computer, the automatic guide lines and the robots only would require to be re-programmed in most cases.

Both at Longbridge and Milan, the robot welders are integral parts of the plant, reflecting the very considerable use of spot welding robots on production lines in Japan. However, some Japanese car plants are using robots for heavy-duty welds on those sections of the car underbody which require particular strength and stiffness.

In Sweden, both Saab and Volvo are using ASE/ESAB robots for arc welding work, these robots being of a somewhat different type from the Unimation design. The ASE/ESAB unit uses a tiny computer (an Intel 8080 microcomputer) to memorise sequences of movement as well as prohibited manoeuvres.

It is taught what it is required to do by a human operator taking the articulated arm through the full sequence of

movements it would be required to perform on site. Each one is recorded in the memory and the full sequence can then be repeated ad infinitum and to very close tolerances.

ASEA has demonstrated the use of heavy duty robots with ESAB gas shielded welding equipment performing particularly complex operations, and a number of users have started to apply such robots in Britain and Germany.

ASEA itself is making extensive use of its own machines, particularly where hot and/or dangerous, repetitive work has to be carried out and in some instances where the robots are made to operate round the clock. An example of such an application is in the positioning and unloading of stainless steel components on polishing equipment which uses a particular obnoxious powdery black buffing medium.

## Subsidiary

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms somewhat similar to the ASEA type to MIT, Stanford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of these units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines. Options offered with the arms are force and touch sensing

fingers as well as wrist force sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "dirty" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

And beyond them is work in hand in Britain and the U.S. to develop automatic assembly machines able to recognise the orientation of a component, however complex, before picking it up, rotating it and placing it where required. Already machines have been developed which put together several simple units into one assembly at speeds up to eight times faster than the best a human operative can achieve and go on doing that round the clock until the machine is switched off.

Solution of the problems insatiable industrial demand is creating does not lie with the automation experts, but with Government economists and social scientists.

E.S.



Part of Unimation's export order for Fiat, a Series 4000 Unimate being checked at the Telford factory.

# Peripherals in the pipeline

AFTER SOFTWARE COSTS, a prime concern of computer users is what they have to pay to buy or lease peripherals. The main processor cost has dropped rapidly, particularly during 1977, following some drastic price reductions by market leaders in traditional and mini computing, which the rest of the field performance has to match.

Much of the hardware now used has a very high precision mechanical content, demanding extreme skill of the workers on the respective assembly lines, and therefore almost incomprehensible so far as production costs go.

Some companies, such as BASF for instance, partly solve this problem by retaining a hold on the magnetic media technology—which indeed they pioneered many decades ago— but having the mechanical electronic side of their disc drive designs produced by Hitachi/Fujitsu for joint use.

But electronic component price cuts have relatively little effect on the cost of peripherals, warning that there must be some overlap between the two ratio is therefore likely to continue to change still further.

although at the moment and many machines were installed for the mid-range mini it is or what they were being used thought to be about 1:10. This for is undoubtedly one of the reasons why a major maker such as Data General is making more and more of its own peripherals and, indeed, its own integrated circuits.

It should therefore be a concern of Government to have a flourishing indigenous peripherals industry. However, despite recent improvements in the prospects of the handful of U.K. companies involved, total output is overwhelmed under the avalanche of imports.

Exactly what the figures are is very hard to determine from official statistics. But the trade balance on peripherals and the components of sub-assemblies for them could have been in the red by as much as £400m. in 1977, with little prospect for any improvement.

In minicomputers and small business machines alone, Pedder Associates (PAL) put the total installed value of equipment at not far off £500m. at the start of 1977, with the have reached a figure of about £580m., again taking into account the very large grey area U.S. arena.

Exports in 1977 appear to have reached a figure of about £280m., again taking into account the very large grey area U.S. arena.

## Exports

For 1977, looking at the separate figures for complete systems, peripherals and parts of peripherals imported, it looks as if the total was around £500m. against £420m. the year before.

Exports in 1977 appear to have reached a figure of about £280m., again taking into account the very large grey area U.S. arena.

CONTINUED ON NEXT PAGE

hidden under the word "other" in the official figures. This compared with £220m. in 1976.

Now the imports are not directly and strictly comparable with exports because 40 per cent represents equipment for installation as part of a system before re-export, and there can be a lengthy dwell time in the U.K.

Allowing also that many in intelligent terminals contain a stripped-down mini, there would still appear to be a yawning gulf in the British computer trade which the efforts of Data and the CPI organisation set up between ICL, NCR and CDC cannot bridge. At about \$400m and negative going to the tune of, say, 35 per cent a year this is absolutely unacceptable at a time when so much is talked about job creation. In deed, if BASF can market very successfully into the U.S. why is the problem?

It lies, of course, across the Atlantic, where the big manufacturers which are seeking to erode the latter's big installed equipment base have been fighting on the sales pitch and in court.

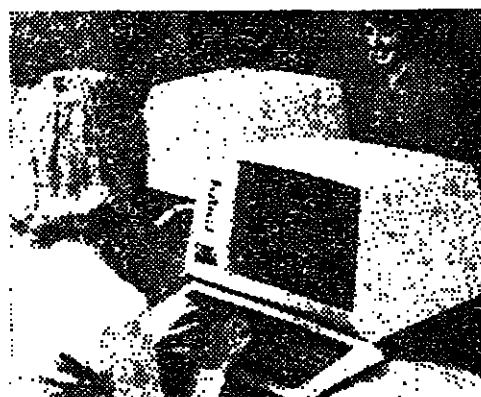
But where ten years ago the plug-compatible manufacturers were very vulnerable to an threat that the IBM main tenance teams would not touch an IBM system containing "foreign bodies," several companies, the growing strength and competence of the alternative suppliers and especially the seniority of users switched to them has changed the picture.

Now, it is believed, not a short of 40 per cent of all IBM installations have one or more units from competitors. At the situation is changing very quickly, since there seems to be no limit on what the plug-compatible camp will offer. Certainly the days of the sense of peripheral equipment are over since several companies offer main memory, two—and it is rumoured to come—offering processors.

The plug-compatible gap has not got where it is by offering Chinese copies. Because their shorter product runs at lower overheads they have generally offered equipment which, while identical to the equivalent so far as the processor is concerned, has advantages both in price and performance. And since the ranks include CDC, IIT Bu new Systems, Exxon and I.

Exports in 1977 appear to have reached a figure of about £280m., again taking into account the very large grey area U.S. arena.

# Tradition and technology get together at Lloyd's of London.



Keeping its business methods as up-to-date as technology will allow is itself a tradition at Lloyd's. In fact, Lloyd's led the City of London in the use of computers for commercial purposes. The latest innovation: more than 140 Raytheon PTS 100 terminals. These "intelligent" terminals enable staff personnel to capture, validate, and enter into Lloyd's computer system information that produces more than 40,000 insurance accounting advices daily. The new equipment—supplied, installed, and maintained by Raytheon Cossor Data Systems—will eliminate the drudgery of conventional keypunching and verification, help Lloyd's people complete work considerably faster than before.

Lloyd's is just one of a rapidly-growing circle of organisations throughout Europe and the free world that have selected Raytheon data processing equipment to help streamline business operations. These run the gamut from travel agencies to chemical companies, from banks to breweries. In transportation alone, 88 airlines use Raytheon data terminals. Data processing equipment is just part of our large and growing commercial electronics business, and commercial electronics is only one of six basic business areas at Raytheon. The others are government systems, energy services, major appliances, educational publishing, and heavy construction equipment. For copies of our latest financial reports, contact any of the offices or companies listed below, or write: Raytheon Europe, 52 Route des Acacias, 1227 Geneva, Switzerland, or worldwide headquarters, Raytheon Company, 141 Spring Street, Lexington, Mass., U.S.A. 02173.

RAYTHEON

FOR INFORMATION ON RAYTHEON DATA PROCESSING EQUIPMENT: Raytheon Cossor Data Systems, The Pinnacles, Elizabeth Way, Harlow, Essex, England, CM19 5BB, 44/279/26862; Raytheon International Data Systems, Spaklerweg 53, Amsterdam, Netherlands, 31 20 924344; Raytheon International Data Systems, Frankfurter Allee 45-47, 6236 Eschborn/Ts, West Germany, 49/6196/4832; Raytheon International Data Systems, Leonrodstrasse 54, 8000 Munich 19, West Germany, 49/89/181077; Raytheon International Data Systems, Hirschburgweg 5, 4010 Düsseldorf 12, West Germany, 49/211/684431.

OTHER RAYTHEON COMPANIES IN EUROPE: Cossor Electronics Limited, Harlow, Essex, England; Data Logic Limited, Greenford, Middlesex, England; Raytheon Halbleiter G.m.b.H., Munich, West Germany; Raytheon Marine Limited, London, England; Raytheon Copenhagen, Denmark; TAG Semiconductors Limited, Zurich, Switzerland; Transistor Bau- und Vertriebsgesellschaft G.m.b.H., Karlsruhe-Durlach, West Germany; Wire and Cable, Electrical Installations Limited, London, England; Fil Dynamics, Lyon, France; Greengate Cables Limited, Manchester, England; Kasing G.m.b.H. & Co., Ingolstadt, West Germany; Lacroix & Kress, Bransche, West Germany; Sterling Cable Company Limited, Aldermaston, Berkshire, England.

RAYTHEON OVERSEAS LIMITED, EUROPEAN OFFICES: Bonn, Brussels, London, Madrid, Paris.

هكذا من الأهل



# Memory moves ahead

Butler Cox expects memory is expected inevitably  
period of further im- to displace traditional main  
especially at the low- memory based on ferrite cores.  
the range. Costs per Companies such as Plessey,

provided prices come down as quickly as they generally do in the components market—and provided the builders of automatic test equipment such as


intended to compete with magnetic discs, having a bit cost of 3.6 millicents and much greater access speed.

In Britain, Plessey has chosen



# ATLANTIC

**WPA Limited**  
91 Blackfriars Road, London SE1 8HW  
Tel: 01-633 0121. Telex: 886724 PACPROG  
Also in Liverpool and Paris.



# Peripherals

And if the only way to com- E.S.

---

# WILSON COMBUSTION

**THE**

# WHICH COMPUTER? — WE HAVE THE ANSWER

**WHICH COMPUTER?** — Published in association with the Data Processing Management Association and with assistance from the National Computing Centre Information Services.

tion with the Data Processing Management  
onal Computing Centre Information Services

<b>Small Business Systems</b>			Tube Investments Group	Oct 1977	<b>Bureaux</b>				
IBM System 32	Sept 1977	Alcatel International			CMG	Sept 1977	A1 320		Nov 1977
NCR 520	Sept 1977	freight forwarders	Nov 1977		Gordon & Gorch		Transit 312		Nov 1977
ICL System 10	Sept 1977	Brinsford, traditional brewers	Nov 1977		Computer Centre		Alcatel 7203		Nov 1977
ICL System 34	Sept 1977	Antonic Laim, furniture manufacturers			Computerline	Sept 1977	Transdata 305		Dec 1977
IBM Executive 15	Oct 1977	Trans Europe	Dec 1977		Computel	Oct 1977	Samson Easycap 300		Dec 1977
CPG Solus	Oct 1977	International shippers	Jan 1978		ADP Network Services	Nov 1977	Tecno Instruments 745		Dec 1977
ABB Multibase	Oct 1977				OLIS Computer Services	Nov 1977	<b>Special Reports</b>		
ICL 2901	Oct 1977	<b>Word Processing</b>			Allen Computer Services	Dec 1977	Covering from		
Wang PCs II	Nov 1977	Wang WP10A	Sept 1977		Horsham Computing Services	Dec 1977	ICL 1900	Sept 1977	Oct 1977
Olson P5060	Nov 1977	Wordplus I	Oct 1977		CDC Data Computers	Jan 1978	Decree - a study of Digital's network architecture		
IBM 7000	Nov 1977	Wordright	Nov 1977		UCAL	Jan 1978	Flow Inter-ol Rand		
Hewlett Packard 9830	Nov 1977	Yvide	Dec 1977		<b>Terminals</b>	Jan 1978	Imagelink IDMAS		
Burrells B80	Dec 1977	Suppliers' Guide	Jan 1978		Anderson Latham NJ 532		A study of Univas and Hewlett's networks		
Nixdorf 8570	Jan 1978				Euro 200	Sept 1977	Nov 1977		
<b>Case Studies on how companies have chosen computer equipment</b>			<b>Miscellaneous Reports</b>		Dustin HyTerm 1630	Sept 1977			
William Solomon, a tobacco importer and distributor	Sept 1977	Varian V77	Sept 1977		Newbury Laboratories 7001	Oct 1978	<b>Suppliers' Guide</b>		
		Dan General C7000	Oct 1977		Lee steelas ADAM 3A	Oct 1977	Word Processing Suppliers		
		Hewlett Packard 1000	Nov 1977		Daol Engineering 241	Oct 1977	The equipment you need, what it can do and how much it costs.		
		CTL R900	Dec 1977		IAI - PNF's inter 21	Nov 1977			
		IBM Series I	Jan 1978						

**Back copies available.**

## SPECIAL OFFER

**Please send me free of charge  
a copy of WHICH COMPUTER?**

I understand that with the magazine I will receive an annual subscription invoice at the special introductory offer price of £15—a saving of £3 on the normal subscription. If I am not entirely satisfied with the magazine, I may return the invoice to you within TEN days and owe you nothing. (Applies UK only. Overseas subscriptions £30 post free airmail.)

Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Tel No. \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Now post please to: WHICH COMPUTER?  
51 Colney Hatch Lane, London N10.

## SPECIAL OFFER

# FOREX

# Y TO DISC

's leading suppliers of key-to-disc systems  
 ou started with a complete three key-station  
 £9,000. When you're satisfied that it beats  
 punched cards around, you can update with  
 the level of data entry which best suits your  
 1. Inforex: the company that makes  
 on easy to use.

# WFOREX

# MANAGEMENT

e retrieval and data base management allow up to 32 operators simultaneous • 1,000 million characters, spread over 142 files. File creation, updating and tion make computer benefits accessible to any departments. Inforex: the company that formation easy to use.

# WFOREK

# DISTRIBUTED PROCESSING

distributed data processing consists of a stand-alone and clustered processors which is our way of doing things. The best hardware, software (the latest COBOL) and the best combine to serve the needs of distributed es. Inforex: the company that makes on easy to use.

y, data management or distributed  
g. Ask Inforex to help you do it your way.  
ie 01-863 8311 or write to: Inforex Limited,  
ouse, Headstone Road, Harrow HA1 1PL.  
ester, telephone 061-707 1123.

# INFOREX

## MANAGEMENT SYSTEMS



## THE COMPUTER INDUSTRY XII

## Schools slow to respond

WHEN contemplating marriages of convenience for the future, the computer industry might seem to have few better prospective partners than formal education. With an annual income of about £7bn. from taxpayers' money, the network of State schools, colleges, polytechnics and universities in Britain has a particularly plain need of good husbandry.

In this capital-intensive age, the network employs one teacher, supporting worker or administrator for roughly every ten of its 9m-plus customers. Salaries and wages take upwards of 70 per cent. of the annual budget. Another characteristic is marked variations between different local authority areas, and between teaching institutions, in efficiency and attitude of management and in content and methods of tuition.

The incongruities may partly account for a high "reject rate" among the network's products. By the educators' own favourite yardstick — the attainment of sufficient qualifications at school to continue full-time formal study — nearly half of school leavers fail. Certainly the lack of continuity between study courses in different places, and between different schools in the same place, is worrying. Ministers involved in the "great debate" begun by the Prime Minister 16 months ago in the hope of making education more attentive to the needs of the outside world which pays its keep. Government believes that often justified fears by parents that their children's studies will be fragmented by a move of home contribute to the economically damaging existence of labour shortages in some areas alongside high unemployment in others.

Education should therefore have much to gain from investing a considerable share of its income in the products and services of the computer industry. Of the main kinds of benefit offered by such an arrangement to education, probably the most evident is the computer-aiding of its management. This could provide more coherent and efficient

means of control and co-ordination at and between the levels of national agencies, local education authorities and teaching institutions, and within the classrooms themselves.

At this last "chalk-face" level much of the individual teacher's time is taken by administrative tasks such as allocating and testing work, and marking and recording the results. Tasks like these are plainly within the capabilities of the new technology. The five-year national development programme lately completed under the leadership of the Council for Educational Technology has indicated that computer-aided management systems can be applied to classroom work in specific subjects and probably to teaching organisations generally, as well as to school-level tasks such as working out the timetable.

The national programme has also indicated that a second kind of benefit, freeing still more of the teacher's time for personal tuition to pupils, could come from computer-assisting the actual process of teaching. The routine tasks of instruction are often adaptable to programmed-learning systems, operating with or without access to an interactive terminal.

## Versatility

In addition, the versatility of the computer can enhance class-teaching by making available fresh techniques, such as the simulation of the effects of students' theories which underlies the national management championships originated by the Financial Times which now attract a paying entry of thousands of contestants annually in numerous countries. Learning-exercises which attract adults to pay money should surely encourage youngsters to pay attention.

Everyday contact with the above two kinds of development could have a third sort of benefit, although not specifically covered by the national programme, is distinctly relevant to the "great debate's" stated objective. Coupled with

lessons about computers, it could foster understanding of the new technology among youngsters who, whether or not they will have direct influence over its limitations and possibilities, look certain to be more and more affected by it after they leave school for the outside world.

Although the predicted growth in educational spending over the next four years will be slow, the potential benefits of recourse to computers have been clarified. Moreover, the certainty that numbers of pupils will diminish through the 1980s offers the network rare scope for innovation.

So onlookers inclined to match-making might see every reason to expect the rapid development of a most fruitful union between education and the computer industry. They would, however, almost certainly be over-optimistic. Like many match-makers before, they would be romantically overlooking factors which, to the prospective partners themselves, are serious impediments.

While education's £7bn. budget may seem a vital statistic to outsiders, it is not the type of figure to attract serious attention from the computer industry's marketing specialists. They will be concerned with the number of potential user-institutions which, since they are unlikely to include many primary schools, total a relatively small 7,000 or so. Even more significant is that when payroll and building costs have been met, less than 5 per cent. of the State education budget is left, for which computing is only one of numerous competitors, including the suppliers of far more established educational equipment and materials.

Increasing spending on computers so as to procure more than compensating savings in staff costs may be justified in theory, but it is hardly practicable. Even if the predicted reduction in real terms of the cost of hardware were not outweighed by increases in the expense of educational soft-



Pupils at Munchenden School (Upper) in Southgate learning to use a computer in their classroom. Munchenden is one of the 13 north London schools which have remote terminals connected to Middlesex Polytechnic's new DEC system 10 computer.

ware, computer-assisted instruction, for example, would still have a hard job to compete with the costs of traditional teaching which in secondary schools were estimated last year as ranging from 22p to 38p per student-hour. By comparison, student-hour costs between £4 and £10 were quoted for interactive terminals, which have the added disadvantage of suspect reliability.

Furthermore, as the Government has ruefully discovered in the "great debate," there is little prospect in the prevailing or probably the foreseeable political climate of imposing change

on the educational unions. Any proposal implying reduction of the rate of teachers to pupils, in particular, would be guaranteed to meet especial ferocity. This may explain why Ministers have made little apparent attempt in the debate to stimulate discussion of the possibilities of computers. Rather than risk substituting organised anti-works towards the new technology, the Government may have decided to leave its adoption mainly to a process of osmosis, perhaps hastened after 1981-82 by extra funding.

Even so, more money would seem unlikely to produce a significant acceleration until the educational profession has built up a critical mass of people keen to realise and disseminate the benefits of computers—a development which looks a long way off at present.

Between a quarter and a half of State secondary schools in England and Wales are estimated to offer some kind of course related to the new technology, and possibly a good half of those in Scotland, which as usual is more tidily organised. But the proportion of the not, however, to deny that a pupils taking these useful start has been made, par-

courses appears unlikely to exceed 20 per cent. The corresponding proportion may well be still smaller in the teacher-training colleges, of which a third at least are thought to offer some related teaching. Throughout education, too, involvement with computers is concentrated among science side students, having as yet made little impression on the arts-side fraternity.

To say that progress towards a fruitful partnership between the computer industry and education is bound to be slow is usual is more tidily organised. But the proportion of the not, however, to deny that a pupils taking these useful start has been made, par-

ticularly towards computer-aided management systems—a result of the national development programme. Perhaps most encouraging advance that by the end of the five-year period, the programme's paid staff had gained almost 600 more teacher-helpers. And when they are outnumbered (wholly by their own colleagues, 600 enthusiasts far more powerful force conversion than any amount of exhortation from the outside.

Michael Di  
Education Correspondent

## From Europe's No 1 in Electronics, The No 1 Range of Business Computers



### Some facts you should know before choosing a business computer

The Philips range is unique; it offers a wide choice and a high degree of built-in growth potential, so that your system can develop with your company's developing needs. Choose Philips, for computers that grow with you.

Philips' concern for customers is unequalled. Our systems are carefully designed to be "user-friendly"; we invest heavily in fully-qualified staff for Sales, Engineering, Training, and Installation; we treat every customer as a long-term relationship. Choose Philips, for a lifetime of good service.

Our Engineers pride themselves on maintaining the most exacting standards in their field. Philips' systems are designed for fast and efficient servicing, and our Engineers are on the spot, whenever you need them — whether you're in the Shetlands or Central London. Choose Philips for reliability.

Philips' annual turnover is £7,000 million. Over £400 million is invested each year in Research and Development. Since the early days Philips has pioneered innovation in computers, and still leads the field in technological progress. Who else can offer you this kind of background? Choose Philips, for security.

Whether you're looking for a small computer, a medium-sized system or a terminal system, we've met your problem before (thanks to over 70,000 installations, in just about every business you can name). Ring us with an outline of your needs, or drop a line to our Head Office and we'll come up with the right answer. Choose Philips, for people who talk your language.

**Philips Data Systems**  
A Division of Philips Electronic and Associated Industries Ltd  
Elektra House, Bergholt Road, Colchester CO4 5BE  
Telephone (0206) 51-15

**PHILIPS** computers that  
talk your  
language

**PHILIPS**

**PHILIPS** Data  
Systems

هكمان الفصل



# The case for rescuing the Think Tank

**CENTRAL** Policy Review partly because its first head, Lord Rothschild, had the independence, status, and personal authority necessary to make it work. According to his book, *Meditations of a Broomstick*, one of Lord Rothschild's bright young recruits later headed a list of the functions of the CPRS with the over-arching machinery of Government.

And that remains an excellent reason why such an organisation should be nurtured. The trouble is that when old hands look back on those days they start wondering whether it was only the combination of those two personalities, plus the peculiar qualities of that Conservative government, that gave the Tank its impetus during those years. Every six months or so Lord Rothschild and his young graduates (average age 35 without counting him) would present Ministers with a half-term report on progress. They would use coloured slides, films, and dramatic charts. It all seemed very businesslike; when the individual subject reports it to an interdepartmental strength of both novelty and the connection with the half-yearly presentations. Mr. Heath kept his Ministers on their toes: if he provided a staff to give them a selective back-up service, they were obliged to take notice.

Everything changed when Labour returned to office. The behind the establishment of CPRS—the Tank—in 1971. In Dr. Bernard Donoghue to a flying start, partly provide strategic and tactical advice to the then Prime Minister, Mr. Edward Heath, determined that his own should succeed, and

complementary to the CPRS, since the former was political and served the Prime Minister only while the latter was independent and served the entire Cabinet. We cannot know how this theory squared with day-to-day practice until we have the documents in, say, 30 years' time, but it does seem true that on a personal level the staffs and directors of the two units established good relations from the start.

Yet Dr. Donoghue had a number of inbuilt advantages not available to his opposite number, Lord Rothschild could not achieve the intimate contact that he had enjoyed with Mr. Heath. Dr. Donoghue had his office right inside Downing Street, giving him constant contact and daily conversation with Sir Harold. When Sir Kenneth Berrill took over the CPRS soon after Labour came to power the feeling that the Tank was something outside the Downing Street circle was magnified.

In different circumstances—and had he been a different man—Sir Kenneth might have tried to cultivate his proper constituency, the Cabinet as a whole, in an effort to make up for the weakening of the link with the Prime Minister. Here again, circumstances did not favour the CPRS. Some Left-wing Labour Ministers noted that a few prominent young Conservatives (William Wedderburn, Adam Ridley) were working for the Tank, and drew the inference that its advice was not for them.

As a breed, Labour Ministers tend to prefer their own political advisers to the central policy review staff and anyway most of them have a fairly inflated opinion of their ability to man-



Changing Think Tank: Sir Kenneth Berrill (left), present Director General, and his predecessor, Lord Rothschild.

age without briefings from something called a Think Tank. When the papers did come forward, their effectiveness was on occasion diminished by the deep ideological divisions within the Labour Government. Long-term strategic thinking was not, after all, an outstanding feature of the Wilson administration.

The arrival at No. 10 of Mr. Callaghan might have changed this depressing picture, if the new Prime Minister had chosen to put his weight behind the

CPRS. By all accounts he did not: he took more notice of their work than had Sir Harold Wilson, but not enough to restore the Tank's fortunes. And when a long-term strategic paper was presented to the Cabinet at Chequers in July, 1977 it was Dr. Donoghue's unit that did the work, not Sir Kenneth's.

As if this were not enough, the Tank has suffered from its own good intentions. True to the tradition of "open govern-

ment" so often urged on all official bodies it published a number of its papers—not by any means the majority of its work, but enough to create a stir. This is a battle it could not win. If it was to do its job of providing radical, possibly unpopular analyses that might upset vested interests—why, those vested interests would fight back. If it avoided that risk, it faced the opposite risk of being derided for lack of courage or originality.

Its indication that Chrysler should not be rescued by the Government was published, and publicly ignored. Its paper on the future of the power plant industry suffered a similar fate. Those who noticed its workmanlike report on population and the social services, which suggested that since we shall have fewer people we may be able to spend less, offered mild cheers, but even though this message is now beginning to sink in it hardly counts as an overwhelming triumph. One might say of the papers that their quality is high: where they have not been effective the fault lies with the recipients.

The Review of Overseas Representation has been widely attacked on the ground of being a poorly-written and badly argued paper. I think that when the dust has settled it will be seen that large parts of it do not deserve such a charge. For the purpose of the present discussion, however, that is of no consequence—the hard fact is that the Review stirred up too many vested interests at once, with the result that the firing against it has not yet stopped.

Some of the Tank's achievements cannot be trumped: their

reports on energy conservation and race relations, for example, or their last-minute rescue of the PWR from the oblivion to which the recent policy statement on nuclear power might have consigned it.

An ex-Treasury man, Sir Kenneth would naturally put his own alternative views on the economy, as he has a right to do, when he sees that a particular paper going before the Cabinet or a particular committee is in the Tank's view erroneous. But there is no way for the public, or much of the Civil Service, to judge this hidden segment of the iceberg.

The upshot is that morale inside the CPRS is hardly at its highest, while its stock within Whitehall is very low indeed. Some whisper that the young outsiders who work for the Tank have gone too far for this time; others, in direct contradiction, that Sir Kenneth is too far under the influence of Sir John Hunt, the Secretary to the Cabinet. The young outsiders themselves are not quite so young any more.

## Reaction

One indication of why it would be right to rescue the CPRS from its present depression is the current reaction in Whitehall. Those who rejoice in the idea of its possible demise, one gathers, are by and large the officials who long for a return to the days when there was no counterweight to departmental or interdepartmental briefs—when no body of people at least half of whom were not civil servants could take an overview different

from the rest of Whitehall. Those who are sad to see its present state of relative decline are the more outward-looking officials.

But how can it be rescued? Sir Kenneth said yesterday that he has no immediate plan to leave his post, and it would be unfair to place the entire blame on his shoulders when it is seen how much the circumstance of a particular Labour Government contributed to the Tank's misfortune. But a new start, with a new (freshly-elected?) Prime Minister and perhaps a new head for the CPRS seems inevitable. The Tank cannot be at its best in the run up to an election anyway.

It would be a pity if the new man decided to publish less, although it would be understandable. Indeed he (she?) might decide that more publication was the better option in the long run. An effort to prove to Ministers as a body that the CPRS was their collective servant would also be essential. The regular strategy reports should certainly be offered to the new Government. There should, perhaps, be more outsiders and fewer civil servants: it is to Ministers, Parliament, and eventually the public that a CPRS with its own long-term future at stake should be looking. Yet the backing of the Prime Minister of the day, plus that of another senior Minister or two, would be a vital ingredient of the response of our next Prime Minister to this machinery-of-government problem. It will be an early indication of his or her sense of the importance of broad strategy.

Joe Rogaly

## Letters to the Editor

### ew contract conditions

Mr. M. Milman.  
Schedule 2 of the Unfair Contract Terms Act 1977 sets out guidelines for the application of reasonableness test for conditions where one party is in a position to impose or limit his liability under a contract. The present now has a stated intention to impose, and to per other, on a contract, conditions to impose, conditions on contractors regulating payments. It is said that of such a condition would be penalties and the avoidance of obligations by the contractor. It would, therefore, be a test of a brave contractor to challenge these conditions under the terms of the Act. For instance, the right of the bargaining position of the parties (paragraph 1) is relevant and in the light of national negotiations which the contractor has no right to challenge (paragraph 2). If the CBI is to support a test case, any negotiator will tell you, a practical test of reasonableness is to seek, rectify and invite the other party to accept the same obligation. I suggest, therefore, that the conditions be made to either party—that is if Government, nationalised companies and statutory undertakers have the courage to accept their own conditions, all it is only fair and reasonable and much more relevant to the national interest and session of inflation. Milman, Wrightson Process, 101, Stockton-on-Tees, and.

### ansport strategy

Mr. J. Miller.  
"Left in mid-air by the 'ts policy' was the clever of your aerospace correspondent's article of February mentioning on the Government's White Paper on airport R. Bonwit, whose letter published on February 6, Mr. J. C. Rogers—the secretary of the British Airport Operators' Association—made out a case for a tunnel and rail link to Heathrow, which of course should be enough to take European stock. It could go further and say the cost of the channel and rail link will be as much as the cost of not doing it having it working within ten years—preferably we have this rail link Continental Europe, the on for a new airport will self.

### apacity of reports

Can Gatwick's single handle 25m passengers asks Robert Beveridge. Before we get into closing down one of the runways to test hypothesis perhaps it

would help to examine how the conclusion was reached.

We are not saying that Gatwick, with one runway, can handle 25m. passengers with its current mix of aircraft because Heathrow, with about the same level of passenger traffic in 1977, certainly needs two runways. We are saying that, by the 1990s the average size of aircraft and their passenger loads will have increased to a level which will make this possible.

In 1977 Gatwick handled 6.5m. passengers on 84,000 commercial aircraft movements, with an average load of 87 passengers per aircraft. This compared with an average load on Heathrow's aircraft of 106 passengers. The ultimate level of aircraft movements that can be handled on Gatwick's runway has been assessed in the Government's airports policy White Paper at 160,000 movements, that is, double the present amount. Therefore, on the basis of present passenger loads Gatwick could cope with about 72m. passengers. So, to achieve 25m. passengers, aircraft loads need to grow to a little less than double what they are at present, say, 165 passengers per aircraft.

This growth does not seem to be unreasonable to us, given the sort of aircraft fleets that will be flying in the 1990s. Skytrain, for example, is already carrying about 280 passengers on average, while Boeing 747s at both Heathrow and Gatwick regularly carry over 400. The Government in its 1975 consultation document "Airport Strategy for Great Britain," assumed a figure of 180 to 200 passengers per aircraft by 1990.

Of course, there will continue to be small aircraft carrying well under 100 passengers, but there seems no good reason why an average of 165 should not be achieved. After all, in 1962 the average load at Gatwick was only 40.

John Mulhern.  
2 Buckingham Gate, S.W.1.

### Baggage at Heathrow

From Mr. L. Gubbay.  
Sir—The South African Airways flight from Johannesburg arrived promptly at Heathrow at 7.00 a.m. on February 13. Passengers were told that it would take British Airways about one hour to unload our luggage because of the cold weather. Some of us wondered whether two degrees of frost was unusual at seven o'clock on a February morning!

We waited patiently for over an hour and a half in the cold, drizzle and fog, watching our baggage flowing smoothly for other airlines not dependent on the services of British Airways. Eventually questions were asked, and tempers rose. The common factor in the several conflicting explanations offered was that the single serviceable unloading machine, out of a fleet of 40 such vehicles, had just broken down and could not be repaired. British Airways staff would strike if one of the other airlines was asked to assist. The airport would be brought to a standstill if passengers attempted to unload their own luggage.

No British Airways manager could be persuaded to speak to the passengers. Junior members of the staff were variously apologetic, ineffective, or downright rude. Deadlock.

At five to nine I told British Airways that unless a manager

—or our luggage—appeared within the next 20 minutes, the passengers would walk out on to the tarmac and paralysed the airport. It may be a coincidence, but biscuits and hot coffee arrived at 9.15, and so did our luggage.

The inefficiency, complacency and sheer bad manners of the British Airways baggage handling unit must be experienced to be believed. I would like to think that there will be an inquiry as to why all 40 machines were not serviceable, and why no member of the management staff was sufficiently concerned to come downstairs and speak to the unfortunate passengers. I would like to believe that reprimands will be given where deserved, and that lessons will be learnt. Somehow, I doubt it. Lucien Gubbay.

3 Wyndham Place, W.1.

### Debt collection agencies

From the director of Consumer Credit, Office of Fair Trading

Sir—Mr. Watson, (February 17) said that the Office of Fair Trading has not yet refused an applicant a licence under the Consumer Credit Act.

The director, general of fair trading has already issued a number of "minded to refuse" notices to applicants and many more will be issued over the next few months. Applicants have the right to make representations at this stage and to appeal against an adverse licensing decision. It is right that these safeguards should exist to ensure that the honest trader is not unjustly treated even if they may cause delay in routing out unit traders.

In addition, there have been some applicants with improper or unfair trade practices who, when challenged, have given undertakings to the director general that they will discontinue these practices. They have been granted licences in the knowledge that should they breach these undertakings their licences will be revoked.

Firms and individuals had several years to put their houses in order before licensing arrived and the knowledge that licensing was coming has already had an effect in cleaning up the credit industry. We shall never know how many firms decided that they had little or no chance of being considered fit persons to be given licences. What we do know is that when we have asked some applicants for further information, we have discovered that they have recently closed their business down or have replied to the effect that they are going to do so.

Any licence holder who misbehaves may be putting his licence and therefore his livelihood in jeopardy. He will lay himself open to complaints from the public which the director general is bound to consider. A. D. Scott.

Field House, Bream's Buildings, E.C.4.

### Understanding agriculture

From Mr. P. Torr

Sir—About 15 months ago, the Parliamentary Committee of the National Farmers' Union decided to invite MPs from the surrounding urban areas to come down and visit two or three farms. The idea was that they should meet the farmers and see at first hand the methods and problems involved in producing the nation's food, thereby improving the

understanding among the MPs of Britain's premier industry.

The following seven MPs were invited: Michael Stewart, F. Tomney, H. Jenkins, E. Perry, T. Cox, Douglas Jay, and Douglas Mann. Of these only Mr. Douglas Mann accepted, and had a most illuminating day. Since then he has listened most kindly to any approaches we have made to him on the farming front. The others all refused or did not bother to reply. The main excuse was that they had no farmers in their constituency and farming had no relevance to their constituents.

This only goes to show the attitude of many MPs to food production in this country and one is left with the feeling that perhaps their constituents don't eat. The fact is that until agriculture is afforded support by all Members of the House, it could well be that in 20 years' time they won't have anything to eat except very expensive imported foods, which will do our balance of payments no good at all.

Food prices, as a percentage of the nation's average gross national income, are among the cheapest in the world and in fact cheaper than they were ten years ago. Common sense or, better, there is no cheap food on the world market so it makes sense to invest in agriculture now to ensure plentiful supplies of food in the future. Contrary to popular belief we as a country are not self-sufficient in any branch of production, and out of every £10 earned by the farmer, 57 are re-invested in the business.

Patrick Torr, Chairman of the Parliamentary Committee, central southern branch of the National Farmers' Union (which covers Middlesex, Surrey and West Sussex).

Perrysfield Farm, Oxted, Surrey.

### Uses of pension funds

From Mr. R. Mountjoy

Sir—Mr. N. G. McLeod (February 15) suggests that pension fund managers should "act in the interests of the people instead of for financial security." Those who seek to direct other people's money are not usually so frank about the consequences. These vast sums, however, on which covetous eyes are being cast, represent the funds of thousands of separate pension schemes and each fund is the sum of the interests of the individual members.

This obvious point always appears to be overlooked by those who have grand plans for the direction of pension fund monies. When such plans are considered from the viewpoint of the individual scheme they appear quite ridiculous. Imagine telling the members that the trustees have decided to abandon the search for financial security in favour of "the interests of the people," whatever that means. The members will not be happy. Before long the trustees will not be very happy either, as they may well find themselves in breach of their responsibilities under trust law.

Are those who seek to direct pension fund monies into less attractive investments prepared to recompense the scheme, or do they expect the members to subsidise the favourite cause or lame dog of the moment? Generally speaking, a sound investment will not require direction or compulsion. Conversely, an investment which requires such prompting should be regarded with the gravest suspicion by the prudent trustee. R. W. Mountjoy, 20 Izzard Drive, Horsham, West Sussex.

## To-day's Events

GENERAL  
Provisional unemployment figures for February.

Texas shop stewards consider company's revised pay deal, following their rejection last Friday of its previous offer.

Merseyside County Council announces its spending plans, including measures to attract industry.

Mrs. Margaret Thatcher, Opposition leader, speaks at Engineering Employers' Federation dinner, Dorchester Hotel, W.1.

Mr. Peter Parker, British Rail chairman, is guest speaker at Westminster Chamber of Commerce lunch, Savoy Hotel, W.C.2.

British Growers Look Ahead conference and exhibition, organised by National Farmers' Union, opens at Harrogate Exhibition Centre (until February 23).

Advertising and Marketing Service Exhibition opens, Wembley Conference Centre (until February 23).

PARLIAMENTARY BUSINESS  
House of Commons: Debate on Opposition motion on taxation. Debate on MPs' secretaries and research assistants.

House of Lords: Participation Agreements Bill, third reading. Suppression of Terrorism Bill, committee. Shipping Bill (Redundancy Payments) Bill, second reading. Debate on disarmament.

Select Committees: Nationalised Industries (sub-committee A).

12. Stakis (Reo.) Organisation, Renfrew, 3.

OPERA  
English National Opera production of Tosca, Coliseum Theatre, W.C.2, 7.30 p.m.

BALLET  
Royal Ballet dance Masterpiece, Covent Garden, W.C.2, 7.30 p.m.

MUSIC  
Margaret Phillips gives organ recital of works by Alain J. S. Bach and Bonnet, St. Lawrence Jewry next Guildhall, E.C.2, 1 p.m.

London Symphony Orchestra, conductor Yevgeny Svetlanov, soloist John Lill (piano) in programme of Rimsky-Korsakov (Pavane of the Nobles, and Scherzando) and Beethoven (Piano Concerto No. 5 in E flat), Royal Festival Hall, S.E.1, 8 p.m.

# Our vetting system is so strict, 95% of our applicants won't wear it



As part of the largest total security company in Europe and the world, Group 4 provides the most comprehensive and up-to-date range of services available.

From personnel to equipment — from start to finish — we accept only the highest standards.

Our Vetting procedure is so stringent that 95% of the people we interview never make the grade.

Those who do are subjected to what is, without a doubt, the finest Training Programme in the business.

And for three months after that, they're only on probation!

When it comes to buzzers, bells, master control systems and all the rest of the sophisticated equipment we need to do our job, we're even tougher.

We can't afford to take any chances. So we design, develop and manufacture it ourselves.

And we don't put our name on it until it's satisfied a Quality Control routine so stringent that the ratio of 'testing' personnel to those involved in manufacture is almost 1/1.

If we've learned one thing after 70 years, it's this:

If there's the slightest risk involved, we just won't wear it. How about you?

**group 4**  
TOTAL SECURITY

Giving the world a sense of security

Group 4 Total Security Ltd., 7 Carlos Place, London W.1. Tel: 01-629 8765 or your local office through Yellow Pages.







# Analysis ahead so far and continuing

R. the first four cent of the equity, previously current year at held by Heron Motor Group. Meeting, 385/7 Boston Road, N.W., on March 15 at noon.

## R24m. by Reed Nampak

TURNOVER FOR the 1977 year of Reed Nampak, the South African company 62.8 per cent owned by Reed International, came to R141.6m, compared with R130.1m for the previous year. Pre-tax profits were R24.27m, against R15.5m, and earnings per share before extraordinary items are shown at 68.44 cents (37.58 cents).

The results are not comparable in view of the deconsolidation of the group's foreign subsidiaries in the year and the acquisition of the printing and packaging interests of Reed Corporation (PTY), acquired with effect from January 1, 1977.

The directors say the results are very gratifying, bearing in mind the depressed economic conditions which prevailed within South Africa during the year.

The group's turnover (excluding foreign subsidiaries and the acquired printing and packaging companies) increased by 10.3 per cent, when compared with the turnover achieved during the 12 months to end 1976. Attributable earnings calculated on the same basis amounted to 58.76 cents per Ordinary share which, when compared with the previous year, represents an increase of 16.3 per cent.

In view of the increased earnings a final dividend of 18 cents per Ordinary share has been declared making a total distribution of 28 cents, which when equated to the comparative annualised Ordinary dividend of 24.75 cents for the previous year, represents an increase of 4.25 cents per share.

Reed International is continuing the disposal of its entire shareholding in Reed Nampak to SAPPL. Pending the outcome of these negotiations the listing of the company shares on the Johannesburg Stock Exchange has been suspended.

## Hawley Goodall

On turnover of 572,000 compared with 570,000 Hawley.

Goodall Group incurred an increased loss of 540,000 against 511,000 for the 26 weeks to July 2, 1977. For all 1976 the deficit was 535,000.

The directors state that the withdrawal from sports goods has now been largely completed and although it will have an adverse effect on the final results for 1977, the losses in this sector should not carry through into 1978.

Despite a slow start in depressed market conditions, orders for the company's range of camping products reached their expected level and the small increase in turnover was achieved.

## Trafalgar House £40m. property sales

Trafalgar House yesterday confirmed City of London property sales totalling £40.4m, yielding purchasing institutions an average yield of 5.7 per cent.

In a circular to shareholders, Trafalgar confirm the sale of Billiter Building, E.C.4, for £29.3m.

Prudential Assurance recently announced that it had acquired the block for an initial return of just under 6 per cent.

The other Trafalgar sale is of its one-third interest in the 108,600 sq. ft. Leadenhall House for £10.9m.

The group gives shareholders no indication of the institutional purchaser of the Leadenhall and Norwich Union Assurance Group was unable to comment on the deal last night.

Mr. Victor Matthews, Trafalgar's deputy chairman and chief executive, also confirms that one further property sale will be completed once the building is ready for occupation in mid-1978.

It is understood that this refers to the 150,000 sq. ft. Wine Office Street development near Fleet Street, E.C.4, pre-let to accountants Touche, Ross, and believed to have been agreed to be sold for around £20m.

Mr. Matthews reaffirms plans for future property development sales. He tells shareholders that, even after repayment of a £10m. bank loan on Billiter, the sales reported to date will boost working capital and, as the sales were "substantially greater" than book value, they will "make a significant contribution to group results for the year to September 30, 1978."

## J. B. HOLLIDAY

The directors of J. B. Holliday (Holdings) state that indications are that the final figures for year to June 30, 1977 will be available by March 10 and that the accounts will be available to send to shareholders by March 31. They say there was a delay in obtaining audited accounts of the Belgian subsidiary and it is hoped that there will be no such delays in the future.

# Imps pessimism over NSM

IT SEEMS unlikely that there will be any significant development in the tobacco substitute field in the immediate future, the directors of Imperial Group tell members.

The group's sales of cigarettes containing NSM, launched last summer, were disappointing. Lack of price advantage over traditional cigarettes was one reason. The price was determined by the Government's decision that NSM, which is made in the U.K., should be subject to the same level of duty as imported tobacco, they explain.

"More seriously there was a lack of support from the authorities which had previously encouraged us in this endeavour, while direct attacks on tobacco substitutes were made by Government-sponsored bodies," the directors comment.

Trading profit of the tobacco division slipped from £81.7m down to £69.5m, on sales, excluding VAT, up from £1.7m to £89m, for the year to October 31, 1977.

The group's total taxable earnings came out lower at £123.1m, £120.5m, external sale of £3.2m, (£2.57m), as reported on February 8. The net dividend per 25p share was stepped up to 3.86p (£3.088p).

The group's strategy of the tobacco division was concentrated on building up a firm foundation for the company for the new trading structure which was anticipated for the U.K. under implementation of the EEC tax structure in January 1978.

The new tax rules have a detrimental effect on the smaller sized and coupon brands. There was, therefore, a dual need to increase the company's share of king-size sales and to improve the competitiveness of its other brands.

Reasons for the new product line, in subsidiary Metamex. And directors remain optimistic for the future prospects of the group. On increased capital from a one-for-two scrip issue and consolidation, stated earnings per 25p share are more than halved from 2.39p to 1.06p for the half year, and the interim dividend is up from an adjusted 0.8325p to 0.92235p net—last year's final was an adjusted 1.15223p paid from profits of £555,938.

Six months tax took £74,500 (£17,620) leaving a net profit at £28,700 against £205,070. Figures for the 1976 half year have been adjusted in accordance with ED 19.

The decline in sales of potato crisps during the year was a setback for Golden Wonder. The brewing division was affected by the falling purchasing power of customers and the poor summer weather.

The trend towards brewery conditioned draught beers was maintained and production capacity to cope with it was increased. A new canning line was installed at John Smith's brewery but a shortage of cans prevented the new plant making a proper contribution.

The larger market continued its growth, though not as rapidly as in 1976-77, and now represented a quarter of the total beer market. In addition to its association with Harp Lager, Courage plans to market its own-lager brand, Edelweiser, during the current year.

Sales through public houses declined marginally during 1976-77 but Courage's three main brands of draught beer did well. The company is to take over 168 outlets in the West Midlands and Merseyside in an exchange with other major brewers.

Meeting, Dorchester Hotel, W., on March 21, at noon.

## Jentique down but confident

REFLECTING the low level of activity in the furniture industry during the latter half of 1977, Jentique (Holdings) turned in lower pre-tax profits for the six months to December 31, 1977, of £158,200 compared with £184,890. Turnover was down slightly to £4.33m, against £4.49m.

Directors state that the clock division, however, had a satisfactory half year. In view of the encouraging response, by customers, to new furniture products now available, and the quantity of high quality wooden clock cases produced for the clock division, they are confident that the furniture division will make a positive contribution to group profits in the second half.

The group is to invest £300,000 in research, new product tooling, and additional plant and buildings, in subsidiary Metamex. And directors remain optimistic for the future prospects of the group.

On increased capital from a one-for-two scrip issue and consolidation, stated earnings per 25p share are more than halved from 2.39p to 1.06p for the half year, and the interim dividend is up from an adjusted 0.8325p to 0.92235p net—last year's final was an adjusted 1.15223p paid from profits of £555,938.

Six months tax took £74,500 (£17,620) leaving a net profit at £28,700 against £205,070. Figures for the 1976 half year have been adjusted in accordance with ED 19.

The decline in sales of potato crisps during the year was a setback for Golden Wonder. The brewing division was affected by the falling purchasing power of customers and the poor summer weather.

The trend towards brewery conditioned draught beers was maintained and production capacity to cope with it was increased. A new canning line was installed at John Smith's brewery but a shortage of cans prevented the new plant making a proper contribution.

The larger market continued its growth, though not as rapidly as in 1976-77, and now represented a quarter of the total beer market. In addition to its association with Harp Lager, Courage plans to market its own-lager brand, Edelweiser, during the current year.

Sales through public houses declined marginally during 1976-77 but Courage's three main brands of draught beer did well. The company is to take over 168 outlets in the West Midlands and Merseyside in an exchange with other major brewers.

Meeting, Dorchester Hotel, W., on March 21, at noon.

# GKN/SACHS CASE Awaiting a supreme decision

BY A. H. HERMANN, LEGAL CORRESPONDENT

THE SAGA of the merger between Guest Keen and Nettlefold, the British engineering group, and Sachs, the German motor component group, is approaching its end, or so the protagonists must hope. To-day, the Bundesgerichtshof (BGH), the supreme court of Germany, will hear the appeal against the decision of the Berlin Kammergericht or Appeal Court, which lifted the ban on the merger imposed by the Federal Cartel Office.

These are the latest additions to the obstacles which any attempt at Europe-wide industrial integration faces simultaneously in several countries. Of these obstacles the delays and costs of the German procedure are now probably the most formidable.

The merger between GKN and Sachs would not perceptibly increase the market share which either has in the different fields of their activities. It would assist a further diversification of their manufacturing activities and allow to expand them in certain markets outside Germany.

The diversification would, it is believed, reduce dependence on the German motor car industry, enabling it to expand into other fields. The stumbling block proved to be the strong position of Fichtel and Sachs, the leading company in the group, in the German market for clutches. The Cartel Office took the view that Sachs has in this market a dominant position and that it can be expected that the financial strength of GKN would increase the dominance still further by sort may suffer from the law's delay more than they would have suffered from an unfavourable decision delivered promptly.

The delays facing companies considering acquisitions or mergers in Europe have now reached a point when they operate as an effective deterrent. In the U.K. it has always been the case that the knowledge that a merger project would be referred to the Monopolistic Commission was in most cases enough for the parties to leave well alone. The EEC Commission's screening of joint ventures has a similar effect. New French rules make it a practical necessity to obtain prior clearance from the Competition Commission before embarking on a merger project creating a market share of 40 per cent, and more.

The issue before the BGH boils down therefore to the question of whether it can be expected that the financial power of GKN can be deployed in combination with Sachs in an anti-competitive way. The Berlin Appeal Court answered this question in the negative but some of its arguments rather obscured the sound core of this decision. Thus when the court said that clutches are a product so well developed that further research and development could be of no great consequence, it appeared to some to make the same sort of dangerous judgment as when Engels (of Marx and Engels) wrote that with the invention of the breech-loaded rifle military engineering had reached a peak which it would not be able to surpass.

The philosophical question before the BGH is what should one make of the German law when it speaks of future developments that "can be expected to take place." The BGH is well known for its reluctance to allow judges to take the place of business executives and it hesitates to allow them the role of soothsayers. Professor F. A. von Hayek who enjoys great authority in Germany has described competition as one of the processes of invention and discovery. The unpredictability of what will happen follows from this nature of the competitive process. Yet in the GKN-Sachs case the dominance of the clutch market by the buyer, namely the motor car industry, should be a sufficiently strong countervailing position to ensure that Sachs will not be able to abuse what ever market strength it has now or will have in the future.

The company has attained record trading levels for each month from and including September last. The January success is attributed to the company's ability to help customers who have experienced difficulty in securing imported supplies of the high quality materials required for difficult parts such as sheet steel pressings.

The company is confident that the significant changes affecting the industry, following the introduction of EEC legislation and new pricing policies by the British Steel Corporation this year, will have little or no effect on outline plans to expand.

Mr. David Ashwell, managing director, has been encouraged by the number of new customers the company has won since the revised trading patterns were introduced, and feels the trend will underpin the company's efforts to secure a deeper market share.

## Jatel finishes with a lot of tea unsold

Because a fairly large proportion of last season's tea crop remains unsold Mr. M. W. Butterwick, the chairman of Jatel, says it is not possible at this stage to make any accurate estimate of the level of profitability in 1977 compared with the previous year when the pre-tax surplus was a record £142m.

However, he describes it as a satisfactory year although deduction for both subsidiaries levelled out at about the same amount as for 1976. The group's average prices for teas sold up to the end of 1977 showed considerable improvement but a smaller quantity of tea was sold.

Jorehaut Tea Company produced 2.19m. kilos (2.16m. kilos) and sales at the London auction were 182 05p (115.11p) per kilo. For Amgoorie Tea Estates the output was marginally down at 1.75m. kilos (1.76m. kilos) but London prices were 144.91p (117.8p) per kilo.

The two proposals for the transfer of these businesses are now under consideration by the Indian authorities but to conform with guidelines intimated by the Indian Government the schemes may have to be somewhat amended, Mr. Butterwick adds.

## Steel and Alloy Processing

Steel and Alloy Processing, the West Midlands steel stockholding company still has its sights set on expansion at West Bromwich and reports record trading figures for January. December excepted.

1 KD equals US\$3.57 as at 31st December 1977

The National Bank of Kuwait S.A.K.					
BALANCE SHEET AT 31 <sup>ST</sup> DECEMBER 1977					
LIABILITIES			ASSETS		
1976 Kuwaiti Dinars		Kuwaiti Dinars	1976 Kuwaiti Dinars		Kuwaiti Dinars
Capital			Cash and Current Accounts with Banks		69,616,194
Authorised, Issued and Paid Up 1,815,000 shares (1976 1,210,000 shares) of KD. 7.500 each fully paid	13,612,500		Money at Call and Short Notice		113,302,339
Share Premium Account	19,057,500		Quoted Investments at under Market Value		
Statutory Reserve	3,885,300		Foreign Government Securities and Securities Guaranteed by Foreign Governments	11,369,193	
General Reserve	18,114,700		Other Securities	13,245,680	
	22,080,000		Deposit Accounts with Banks, Industrial Bankers and Other Financial Institutions	146,139,930	
Profit and Loss Account	390,760		Advances to Customers, Bills Discounted and Other Accounts	262,651,884	
	55,060,760		Unquoted Investments (at or under cost)		
Current, Deposit and Other Accounts (including Contingency Accounts)	584,345,765		Subsidiaries and Associated Companies	3,770,384	
			Others (of which I.B.R.D. Bonds KD19,668,125 - 1976 KD22,202,500)	22,305,670	
Proposed Dividend, payable 1st February 1978	2,994,750		Land and Buildings (at cost less amounts written off)		642,401,275
	642,401,275		Liability of Customers for Confirmed Credits, Acceptances and Guarantees as per contra	200,770,551	
Confirmed Credits, Acceptances and Guarantees on behalf of Customers, as per contra	200,770,551				
	200,770,551				
	KD843,171,826				KD843,171,826
YACOUB YOUSUF AL HAMAD Chairman			MOHAMED ABDUL MOHSIN AL KHARAFI Deputy Chairman		
			C. D. FEARS Chief General Manager		

Correspondents: United Bank of Kuwait Limited, Barclays Bank International Limited, Standard Chartered Bank, Midland Bank Limited, Lloyds Bank National Westminster Bank Limited, Bank of Tokyo Limited, Chase Manhattan Bank, Fuji Bank Limited, New York Correspondents: Irving Trust, Bank of America (International), Bankers Trust Company, Chase Manhattan Bank, Chemical Bank, Citibank N.A., J. Henry Schroder Bank & Trust, Manufacturers Hanover Trust Company, Morgan Guaranty Trust Company, The Bank of Tokyo Limited, Wells Fargo Bank N.A., Royal Bank of Canada.



## B. Sunley sells homes division to Wates

by the National Business Association: 1/4 Per cent. from January 1, 1949. Clearing  
days' notice) 3 per cent. Clearing Bank Rates for lending 50 per cent. Treasury  
per cent.











## FINANCIAL AND COMPANY NEWS

## NEWS ANALYSIS—EIDAI COMPANY

## setback for Daiwa Bank

BY DOUGLAS RAMSEY IN TOKYO

Japanese business already accustomed to the Bank of Tokyo and Eidal in 1975 when an outsider was put in as Eidal president, and intense competition for Daiwa Bank. Daiwa Bank sent some of its officers into the field yesterday to explain its involvement with Eidal to foreign bankers. Although short on facts, the Daiwa Bank statement put Eidal's liabilities at ¥130bn. (\$54m.) plus another ¥55bn. on a consolidated basis. The bank has refused to disclose its loan total to Eidal on a consolidated basis, and assured foreign bankers that the ¥30bn. of loans to the parent company could easily be covered (if necessary) by the bank's reserves for possible losses put at ¥105bn. Daiwa's profit after all deductions in the last term were ¥11bn.

In short, a foreign banker said "Daiwa has the reserves to stand the shock," but the full of its involvement is still unclear. Neither Daiwa Bank nor any of Eidal's other creditors expect they will have to write off all Eidal's debts, but to reassure Eidal's smaller creditors and clients Daiwa announced yesterday afternoon that it will take up all outstanding issue obligations to Eidal, including the ¥32m. outstanding balance on two corporate issues in June and December 1971 which will be purchased by Daiwa at face value; ¥13bn. still outstanding from an April 1972 convertible issue; and \$3.82m. or a \$10m. convertible fast pace despite personnel cuts and interest rate cuts from its major bankers amounting to about ¥4bn. annually. In 1977 sales appear to have dropped below the 1975 level to about ¥98bn. and market analysts expect Eidal will notch up a ¥3bn. recurring loss and perhaps more than a ¥6bn. loss after tax.

In the past year, Mr. Kawakami has used his influence from Daiwa Bank to enforce cuts in Eidal's personnel, with total employees dropping from just over 3,000 a year ago to 2,600 employees. In addition, Eidal's consolidated subsidiaries employ 1,200 people who now face dismissal or enforced retirement.

Although Eidal's business turned sour in 1975 the company remained the top Japanese plywood maker, even in 1977. But in the meantime, the sector was dominated by new companies and Eidal branched into the prefabricated housing market and built up the capacity to produce 9,000 units a year. In 1977, industry analysts say most prefabricated house manufacturers were operating at about 50 per cent. of capacity and Eidal produced fewer than 3,000 homes for its customers. Thus Eidal has been hard hit by the recession in the domestic housing industry which took its toll about equal on construction materials (45 per cent. of Eidal's sales), housing equipment (22 per cent.) and sales of prefabricated homes and real estate (33 per cent.).

Some of Eidal's largest investments, including Japan's largest life insurance companies, dumped large shareholdings last Friday on the Tokyo Stock Exchange when rumours began to take hold about Eidal's impending bankruptcy. The share sales cut Eidal's share price in half that day, closing at ¥51 per share in sharp contrast to Eidal's blue chip days in 1973 when its share price boomed to over ¥1,000 a share.

All told, Eidal has accumulated losses after tax of about ¥40bn. in the past three years. They began with the financial year to December 1975 when the company posted a ¥19.3bn. loss after tax. In 1976 the company continued to lose money at a

cut in the previous full year from 5.5 cents to 6 cents. Earnings are expected to be in line with the first half, which would mean a total of 14.6 cents against 9.1 cents.

DARLING AND Hodgson, the construction and civil engineering arm of Union Corporation, which holds 85 per cent. of the shares, has reported reduced turnover, from ¥154m. to ¥142m. (\$164m.) and trading profit up from ¥12.8m. to ¥13.6m. (\$15.7m.). Tax has trimmed the rise at the net level, but after lower attribution of profits to outside shareholders, net earnings are up from ¥8.5m. to ¥7.2m., or from 42 cents to 46 cents. The dividend has been raised from 15 cents to 17 cents.

HIGHER interim stage profits announced by South African footwear group Edwicks (1936). Sales for the six months ended end-December rose marginally but pre-tax profits increased by 18 per cent. to ¥1.12m. (\$1.25m.) while a reduced charge for tax helped lift net attributable by more than half from ¥535,000 to ¥853,000. The interim dividend is lifted from 1 cent to 2 cents.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

## The year.

AVCO CORPORATION	Three months ended November 30		Year ended November 30	
	1977	1976	1977	1976
(Thousands of dollars)				
REVENUES Financial services	\$225,767	\$190,730	\$ 821,334	\$ 727,536
Products and research	172,565	140,850	603,357	545,501
Motion pictures and land development	43,934	25,335	113,197	72,323
	\$442,266	\$356,915	\$1,537,888	\$1,345,360
EARNINGS Financial services	\$ 18,108	\$ 14,104	\$ 62,119	\$ 43,484
Products and research	18,573	11,023	47,822	37,435
Motion pictures and land development	4,531	(344)	1,791	(11,130)
EARNINGS FROM CONTINUING OPERATIONS before unrealized losses on foreign exchange fluctuations	41,212	24,783	111,732	69,789
UNREALIZED LOSSES ON FOREIGN EXCHANGE FLUCTUATIONS	(5,653)	(32,109)	(11,615)	(22,972)
DISCONTINUED OPERATIONS	—	—	(400)	32,356
EXTRAORDINARY TAX CREDITS	35,559	(7,326)	99,717	79,173
NET EARNINGS (LOSS)	\$ 43,276	\$ 3,200	\$ 116,603	\$ 97,299
Per common share, primary	\$3.41	(\$ .54)	\$8.92	\$6.60
Per common share, fully diluted	1.79	(.54)	4.93	3.98

## AVCO DIVISIONS AND SUBSIDIARIES:

## FINANCIAL SERVICES

Avco Financial Services, Inc. • Carte Blanche Corporation • Cartan Travel Bureau, Inc. • The Paul Revere Companies

## PRODUCTS AND RESEARCH

Avco Aerostructures Division • Avco Electronics Division • Avco Everett Research Laboratory, Inc. • Avco International Services Division • Avco Lycoming Stratford Division • Avco Lycoming Williamsport Division • Avco Medical Products Division • Avco New Idea Farm Equipment Division • Avco of Canada, Ltd. • Avco Specialty Materials Division • Avco Systems Division • Ben-Mont Corporation

## MOTION PICTURES AND LAND DEVELOPMENT

Avco Community Developers, Inc. • Avco Embassy Pictures Corp.

Write today for a copy of our annual report.

**AVCO**  
AVCO CORPORATION  
1275 King Street, Greenwich, CT, USA 06830

This advertisement appears as a matter of record only.

## Mass Transit Railway Corporation Hong Kong

### U.S. \$400,000,000 Ten Year Loan Facility

arranged by

Manufacturers Hanover Limited

Chemical Asia Finance Corp., Ltd. Orion Pacific Limited Standard Chartered Bank Limited

The Bank of Tokyo, Ltd. Banque Nationale de Paris

Commerzbank Aktiengesellschaft Compagnie Financière de la Deutsche Bank AG

Dresdner (South East Asia) Limited—Dresdner Bank Group Lloyds Bank International Limited

The Long-Term Credit Bank of Japan, Limited Toronto Dominion Bank Westdeutsche Landesbank Girozentrale

provided by

The Bank of Tokyo, Ltd. Banque Nationale de Paris Chemical Asia Finance Corp., Ltd. Commerzbank Aktiengesellschaft, London Branch  
DB Finance (Hong Kong) Ltd. Dresdner (South East Asia) Limited—Dresdner Bank Group LBI Finance (Hong Kong) Limited  
LTCB Asia Limited Manufacturers Hanover Trust Company Orion Pacific Limited Standard Chartered Bank Limited  
Toronto Dominion Investments (HK) Limited WestLB International S.A.

Canadian Imperial Bank of Commerce Fui Kwong On Financial Limited Mitsubishi International Finance Limited  
The Royal Bank of Canada Group The Sanwa Bank, Limited Tokai Asia Limited Western International Capital Ltd.—United California Bank Group

Australian European Finance Corporation NV The Bank of Yokohama Limited Banque Canadienne Nationale (Bahamas) Limited  
Baring Saawa Limited The Commercial Bank of Australia Limited Commonwealth Trading Bank of Australia  
DG Capital Company Ltd.—DG Bank Group The Dai-Ichi Kangyo Bank, Ltd. The Daiwa Bank Ltd. First National Bank of Oregon  
Girard Bank Kyowa Finance (Hong Kong) Limited MAIBL Bermuda (Far East) Limited Manufacturers Hanover Asia Limited  
Mitsui Finance Asia Limited The Northern Trust Company Saitama-Union International (Hong Kong) Limited  
The Sunamichi Bank, Limited Takushu International (Asia) Limited Taiwa Kobe Finance Hong Kong Limited

February, 1978

## trachem profits buoyant

JO ROUSE

ALIS group, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

the group's profits to the ¥250m. level, which comes on top of start-up losses of 40 per cent. of the balance of allowances attributable to cushioning troubles.

Second half-year a strong market months, yield 6.7 per cent. on the dividend. The Coalplex pro-

ject, Sentrachem is also engaged in a joint venture with Tate and Lyle in the local manufacture of bio-degradable detergent from sugar. Its other interests are spread across agricultural and industrial chemicals, plastics and rubber.

Higher profit at McCarthy

AFTER THE somewhat depressing experiences of several companies over the six months to end-December, some more buoyant figures have appeared from different portions of South African industry.

The motor trading group McCarthy, which had sales of ¥250m. in its last full year, and holds franchises such as Jaguar, BMW and Datsun, has reported an operating profit a shade higher from ¥4.2m. to ¥4.5m. (\$4.9m.) for the six months to end-December. But after a sharp fall in interest paid, group net profit after taxation was up from ¥0.9m. to ¥1.3m. and earnings per share hardened from 3.2 cents to 7.3 cents.

The interim dividend was raised from 2.5 cents to 3 cents in a move which restores part of

## Slight fall in UIB earnings

By Michael Blandon

UNITED International Bank, the London-based consortium banking group, reports a slight reduction in its earnings for 1977.

The company's pre-tax profits slipped from just under £1.7m. to £1.6m. (\$3.1m.). Mr. Alberto Weissmuller, the managing director, yesterday attributed the fall to two main factors.

These were the rise in the value of the pound, which reduced the value of the bank's foreign currency assets in contrast with the 15 per cent. contribution made to earnings by the revaluation of assets in the previous year; and the lack of demand for medium-term loans at attractive spreads.

With the pressure on margins over the past year, UIB has run down its medium-term lending book, with loans for more than a year falling from £81.8m. to £77.9m. at the end of the year, but has increased its short-term lending business.

At the same time, the bank has concentrated on diversifying the sources of its revenue. Fee and commission income more than doubled last year with the bank co-managing syndicated loans for major borrowers in various countries.

UIB has established itself as a market-maker in the Eurobond secondary market and has begun to develop its investment management activities, including the establishment of a new subsidiary in Jersey to support its United International Bond Fund. This is aimed to appeal particularly to investors in the OPEC states.

Sir Norman Biggs, the chairman, argues that the bank is well placed to reap increased benefit from the diversification of activities undertaken during the year.

## ru franchise for Wearne

SINGAPORE, Feb. 20.

Subaru franchise will enable Wearne to increase its penetration in the Malaysian market. Last year Wearne accounted for 19 per cent. of total car sales in Malaysia and 18.5 per cent. of commercial vehicle sales.

Subaru cars currently account for an insignificant proportion of car sales in Malaysia. However, sales are expected to improve when Wearne begins to assemble the cars at its existing assembly plant.

Japanese cars now account for over 65 per cent. of the car sales in Malaysia and the

This announcement appears as a matter of record only

**FENOSA**

uerzas Eléctricas del Noroeste, S.A.







## FINANCIAL TIMES REPORT

Tuesday February 21 1978

## Thamesdown

Swindon still retains its tradition as a leading railway town. But by expanding and diversifying its industry the town has been well able to cope with the recent recession and the new district of Thamesdown has every reason for confidence in its future.

oving  
the  
ht  
ck

ony Moreton  
Fairs Editor

EARS ago, when the  
an were filtering  
vilian jobs after the  
on was one of the  
lway towns in the  
day, following local  
re-organisation,  
s changed its name  
town, expanded to  
ne of the outlying  
ome of its more im-  
ortions to the county  
e and acquired a  
new industry.  
ages are symbolic  
s happened to the  
intervening years.  
id easily have be-  
move its headquarters  
r casualty of the in-  
ange, which has  
se parts of Britain  
relied overmuch on  
try, it could have  
y of Tyneside and  
nd South Wales.  
t has adapted, spread  
industry is still

there in the town, but as it has  
slimmed it has taken on a new  
life and earlier this month the  
first locomotive from the work-  
shops for 15 years was rolled  
out. The railways are still  
important though the town is no  
longer dependent on them.  
Compared with many other  
towns Swindon has ridden the  
recession of the past four years  
rather more easily. Its unem-  
ployment figures are not notice-  
ably worse than the national  
average and the town, partly  
because of its railway, has  
grown and will continue to  
grow. The present population—  
120,000 in the town, or 180,000  
in the whole district of Thames-  
down—probably encompasses  
another 20,000 in the immediate  
environs. By the late 80s to  
middle 90s it is expected to  
grow to at least 220,000.

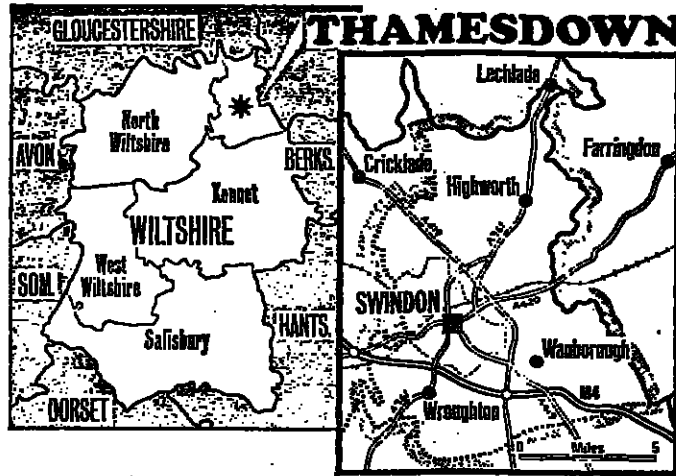
The last three will ultimately  
add some 700 jobs in service  
industries. Despite this, Swin-  
don remains very much a manu-  
facturing centre. Production  
accounts for somewhere between  
two-thirds and three-quarters of  
the jobs available in the town.  
Such heavy dependence on  
manufacturing brings its prob-  
lems as well as its advantages  
and there is no doubt that more  
services employment would pro-  
vide a better spread to the  
local economy.

## Multiples

This expanding population  
has come in the wake of the  
expanding diversification of  
industry. To take the place of  
the railway workshops, groups  
like British Leyland, Vickers,  
Garrard, Wills, Nationswide  
Building Society and Hambro  
Life now play an important role.  
C and A has just arrived in  
the shopping centre to join most  
of the other multiples. The  
Science Research Council will  
move its headquarters in before  
the end of the year and it will  
be joined by the Natural  
Environment Research Council.  
This building would be up to  
nine storeys high and be some  
three times the size of Burmah's  
headquarters. Institutional  
finance has been approached to

pay for the cost and since no  
office permit is required several  
organisations have expressed  
interest in the project.  
Part of the reason for this  
interest is the excellent position  
which Swindon occupies. It is  
astride the main railway line to  
the West Country and South  
Wales and, with the high-speed  
trains, the journey from Pad-  
dington can take as little as 50  
minutes. It is also on the fringe  
of the M4 motorway, so that  
London Airport can be reached  
by car in under the hour. It is  
also easily accessible to the  
Midlands and the South Coast  
ports.

What is of some concern,  
though, is the lack of co-opera-  
tion between the district council  
and the county council. When  
Swindon wanted to provide land  
for expansion Wiltshire objected  
and it was not until the Secre-  
tary for the Environment over-  
rode the objections in January



Category	1977		1978		1979		Total	
	'000 sq. ft.	Jobs	'000 sq. ft.	Jobs	'000 sq. ft.	Jobs	'000 sq. ft.	Jobs
Incoming Industry .....	139.7	408	150.0	150	120.0	250	409.7	808
Incoming Office .....	71.0	300	167.0	500	30.0	250	268.0	1,050
Relocations .....	10.8	27	—	—	—	—	10.8	27
Totals .....	221.2	735	317.0	650	150.0	500	688.5	1,885

a lot of co-operation. Although which 1,200 were to come from  
it is Whitehall policy to local expansion. Incoming in-  
courage companies to go to dustry would create another 700  
the assisted areas, which means and incoming office work 400.  
South Wales and Cornwall, the Local expansion probably ex-  
Government accepts that there ceeded its target and when the  
is little point in refusing a com- figures are finally worked out  
pany a development certificate it is thought that new com-  
if the effect is to kill jobs in panies would also have met  
the town. Mr. Christopher their planned contribution.

This year the target is 2,600  
(half from local expansion) and  
result was that a company in both 1979 and 1980 the figure  
decided to move to Eire rather is 3,000 (again half locally).  
than expand in Swindon. The Committed schemes for this  
same mistake has not been year and 1979 already make a  
repeated. substantial contribution to  
As well as factories and achieving this growth and when  
housing, Swindon also needs linked to local expansion  
more hotels. The four main ones projects, such as that at Hambro  
in and around the town do good Life, the overall prospects are  
business on weekdays when it is encouraging.

The level of inquiries for  
sites and premises is also  
encouraging. In the second half  
of last year there were 80  
inquiries and another 147  
contacts made by the local  
authority.

Not all the prospects are so  
encouraging and there are  
worries over some of the plants.  
Severe competition from the  
months without too much dis-  
turbance then the outlook is  
indeed promising.

SWINDON HAS INCENTIVES  
NO GOVERNMENT CAN OFFER.

Government aid is the last thing you need in  
like Swindon.  
ey, Burmah Oil, Hambro Life, British Leyland,  
l Reliance Ltd. (USA) and W. H. Smith are  
t the 300 firms who have already established  
lves here. Making Swindon the most successful  
ing town in the U.K.  
never has it looked more tempting to expanding  
ies than it does today.

Office and factory space is immediately available.  
There's plenty of land for development sites, with  
full I.D.C. support.

Communications are excellent. We're at the hub of  
the motorway network, with London and South Wales  
along the M4 (a direct link to the new Ford plant at  
Bridgend) and the Midlands, North and South West  
via the M5.

By Inter City High Speed train, the capital  
is an hour or less away. Even Heathrow  
Airport is quicker from Swindon than from  
central London. And the sea port of  
Southampton is a mere two hours away.

To the employees you bring with you, we offer  
guaranteed housing and a more relaxed way of life. For  
additional recruitment, a large work force is available.

With advantages like these, the only help you'll  
need will come from the Council's experienced  
development team.

They'll give you, and your employees, every  
assistance to make your move a smooth one - from  
green fields to full production.

So if your company is going places, send for our  
brochure and get the facts about Swindon - the town  
planned for growth.

Contact: The Industrial Adviser's Office,  
Thamesdown Borough Council,  
SWINDON SN1 2JH  
Tel: 0793 26161  
Telex: 44833

Borough  
of  
Thamesdown

IMMEDIATE  
OFFICE SPACE  
NO O.D.P. REQUIRED

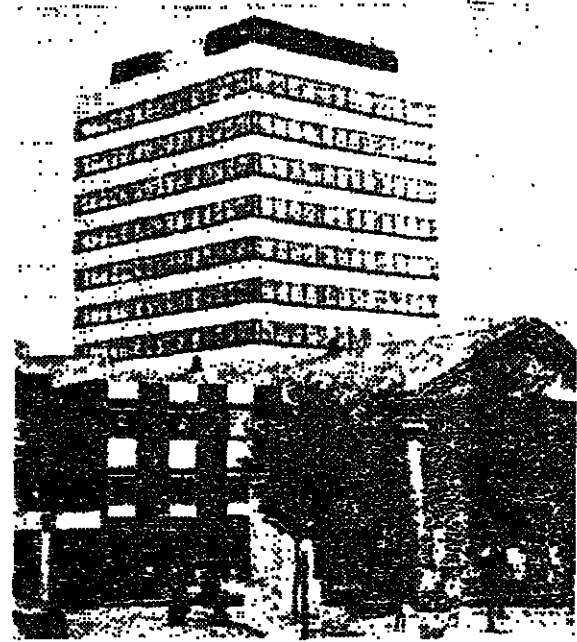
SITES FOR OFFICES  
AND FACTORIES

IMMEDIATE  
FACTORY SPACE  
FULL I.D.C. SUPPORT



## THAMESDOWN II

# ASPEN HOUSE SWINDON



A rare opportunity to lease a substantial office building west of London.

66,000 sq. ft.

To Let

- Air-conditioning ● High Speed Lifts
- 120 Parking Spaces ● Computer Facility ● Central Location

**JONES LANG WOOTTON**  
Chartered Surveyors  
103 Mount Street, London W1Y 6AS.  
Telephone: 01-493 6040. Telex: 23858.

**JIP Sturge**  
Chartered Surveyors  
37 Regent Circus Swindon SN1 1QD.  
Tel: (0793) 33155.

SINCE 1974, Swindon has been pursuing an integrated house building policy which has doubled the rate of new construction and provided the town with a blend of housing types and tenures designed to meet the needs of an expanding community.

The town's urban area population has grown from about 67,000 in 1952, when it was earmarked for overspill development in the Town Development Act, to just over 120,000 today, allaying some earlier fears that it would decline with the shrinking of its major and traditional source of employment, the railway industry.

Future projections envisage the town and its outskirts having a population of between 155,000 and 160,000 by 1986, with the figure rising to around 230,000 before the turn of the century. With these figures in mind, the town decided four years ago to set itself new housebuilding targets to meet the expected demand from a growing population, and to date its record of progress has been good.

The council decided on an annual new building rate of 1,500 units, but also devised a programme which would provide the widest possible housing choice throughout the borough.

At the time the targets and the new strategy were set, the council accepted that there would be some delay in meeting its objectives, but this is now happening and the new building rate in its last financial year reached 1,600 units against only 700 to 800 pre-1974.

For the next couple of years

at least, the council is confident that the planned level of building can be maintained. A recent decision by the Secretary of the Environment to release over 500 acres of land for housing development has provided a major boost for the council's programme.

The actual number of new units aside, Swindon's objective is to ensure that a third of all new homes are built for letting, while another 25 per cent will be built for sale, with the council either sponsoring the development or establishing nomination arrangements.

Its ability to provide its own mortgage finance for applicants has, as in other local authorities, been severely restricted by central Government expenditure cuts. At the moment, only about £400,000 a year is available for home loans against a figure which once exceeded £4m. The Council reports, however, that building society co-operation is going quite well.

## Essential

Of the remaining housing being built, about 10 per cent will be the result of housing association work and the rest will be provided by normal private sector development.

The provision of such a wide range of housing is regarded as an essential element of the town's attempts to attract industry and commerce. Under its arrangements, any company coming to Swindon is guaranteed from the outset that the council will provide housing accommodation for all their workers. Once a company has

become established, the council will also undertake to find accommodation for any additional key workers that are subsequently required.

In the words of Mr. Gerald Blythe, director, development and housing for Thamesdown: "Housing is our number one priority. An immediate supply of housing is something which not many local authorities can offer but now we have doubled our rate of building we are confident we can meet any demands made of us."

Such is the priority given to newcomers, that local people on the town's waiting list lose their places in the queue if an incoming company's employees require homes. With a local waiting list of just over 2,000, representing anything up to an eight-month waiting period, such a policy could be potentially very explosive, although Mr. Blythe says this is not the case.

"It is a fact of life here which everyone seems sensible enough to appreciate. If the town is to thrive and expand, then it must put nothing in the way of people who wish to come and contribute to its success. It is in the ultimate interests of everyone that they should be helped first."

Behind the house building programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Within each "village," the planners are endeavouring to provide the widest possible cross-section of housing types and the choice ranges from council houses to medium-priced homes and luxury houses costing up to £40,000.

The council's plans for continuing this sort of approach have been given a major fillip by the Secretary of State's decision to open up land on the west of the town for development. The plan had been opposed by the county council because it believed the proposals pre-empted the overall structure plan being drawn up. In the event, the Secretary of State did not agree.

## Operational

Of the 515 acres which has become available, the council owns just over 21 per cent, with the remainder lying in private hands. The development of the area, dubbed Westlea Down by the consortium of contractors involved—Bradley Estates, Barratt Developments and Costain—will provide around 4,500 homes, three primary schools, a secondary school, a district centre, an industrial estate and some office accommodation. The first homes on the new development should be available by mid-1979, with the district centre becoming operational in 1980. The cost of the area's development is likely to top £30m.

McLean Homes, part of the Farmac Group, is also prominent in the town, where its southern operations are based. The company's association with Swindon dates back to 1960, since when it has been building homes and commercial property in the area. Its company has just reported sales on its luxury Manor development have topped the £2m mark. Remaining properties are priced from £25,000 to £38,000.

Elsewhere in Swindon, expansion to the east of the town, just being finished off, is providing accommodation for another 120 people on the Doran, a village which has two urban villages established. More developments in both the west and north are planned.

Away from new housing, the council has small-scale slum clearance in grammar under way and encouraging private sector work wherever possible. It has declared three general improvement areas, one of which includes a railway village, which was built in the mid-1800s and is now being renovated to provide over 300 homes. The scheme has won a number of design awards and the council is pleased to hold it up as an example of the efforts to which it is prepared to go to preserve the town's identity.

At the other end of the scale, the council is just about to market 72 luxury flats and a building, forming part of a £20m Brunel Centre development and are located in the scheme's tower block. Ref for the one- and two-bed flats will reflect the "luxury" status which has been attached to them.

Michael Cass

Michael Cass

# Employers. To meet your local needs we've sharpened up our local service

Finding staff locally is, quite obviously, a local problem.

And because we're determined to give you a really effective local service we've introduced Jobcentres. They are the most visible result of a new attitude that is changing the entire employment service, its management, its staff and its organization.

Today there are nearly 400 Jobcentres up and down the country. And the remaining 600 Employment Offices now offer a much improved service.

The local managers and their team can offer you an impressive service across a range of commercial and industrial jobs — backed up by a grasp of specific local employment needs and a countrywide network.

Jobcentres are prominently situated, offer a self-selection display where your vacancy can be presented within minutes of notification, and they attract a wide range of jobseekers.

We can also give a more personal service that can be tailored to meet your individual needs.

You have a vacancy? Give it to your local Jobcentre or Employment Office. Our local manager is ready to help you in every way possible. It's well worth your while to find out about the full range of services we can offer.

**JOBCENTRE**

MSC

Manpower  
Services Commission  
Employment  
Service Agency

Part of Britain's Changing Employment Service

# Better demand for property

PROPERTY DEVELOPERS drawn along the M4 Motorway to Swindon and its satellite towns temporarily over-estimated the demand for space in the area. As with so many provincial relocation centres, Thamesdown spent the first half of the 1970s with plenty of potential, and too few tenants.

Now, the Wiltshire Downs are beginning to justify their appeal, and in 1978 local agents expect the over-supply of shop, office and industrial space to be steadily absorbed.

On the office front, Swindon's long empty speculative developments are beginning to attract attention again. At the end of 1977 regional agents J. P. Sturge and Sons report a 150,000-square-foot overhang of unlet space. London and Manchester's 58,000-square-foot Aspen House in Temple Street, Sun Life of Canada's 30,000-square-foot Beaver House in Victoria Road, and the 16,100-square-foot Paxton House, also in Victoria Road, make up the bulk of the available space. The local authority's own 36,000-square-foot David Murray Tower over the Brunel shopping centre will also come on to the market this year.

And a mild flow of owner occupation schemes under construction in recent years has tended to take the edge from local demand for space.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

## Unanimous

This supply of unlet space may not be sufficient to meet the demand for offices over the next 12 months. Local agents are unanimous in their view that the office market is on the turn. Farrant and Wightman has let the remaining space in the Princes House development in Swindon for rents of around £4 a square foot. And asking rents ranging from £3.50 to £3.75 a square foot for other large units of modern air-conditioned space in the town are beginning to draw tenants, but are still too low to justify any new speculative building.

Smaller office suites are available in Swindon and on the town fringes, at asking rents ranging from £2 to £4 a square foot depending upon location and quality.

A survey of the Thamesdown industrial property market by Farrant and Wightman shows that some 380,000 square feet of factories and warehouses were taken up in 1977. The agents see little possibility of that annual rate slackening this year, and demand pressure is already putting pressure on industrial rents, which averaged £1.12 to £1.25 a square foot last year and which now hover around the £1.30-a-square-foot level.

There is a mass of potential

new industrial development in the area, and the council's recent success in overcoming county council objections to the rezoning of 1,000 acres of residential and industrial development land to the West of the town opens the door for further leasehold schemes on council land.

The Industrial and Commercial Finance Corporation is developing a 5-acre industrial site at Groundwell Farm, and has completed three speculative units, two of 10,000 square feet and a 20,000 square feet unit. There is scope for upwards of 200,000 square feet of industrial space on its site. But rising building costs are bound to be reflected in future asking rents.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

Sturge reports that 60 per cent of Vickers Properties' 208,000 square feet first phase development at the South Marston Industrial Estate is now let, or under offer, at rents up to £1.35 a square foot. And lettings or negotiations on other major sites suggest that, at last year's rate of demand there will be a shortage of modern industrial space by the autumn at the latest.

There is a reasonably good supply of council owned land available for new industrial building projects, costing between £35,000 and £45,000 a acre for a 99-year lease at peppercorn rent. Motors linked private sites with planning consents sell at a significant premium to council land but are increasingly rare.

The council's reluctance permit out-of-town discount stores on industrially zoned land helps to bolster an otherwise sluggish retail market. But Farrant and Wightman's note: "Following completion of the final phase of the Brunel Centre, the shopping supply has run ahead of population growth in the Thamesdown catchment area."

Prime town centre rents range from £16 to £18 a square foot for Zone A space. But a differential between prime and secondary shopping is shown with off centre space available for under £5 a square foot. Demand from town fringe stores has so far been frustrated by planning controls.

John Brenna

MAKE A PROFESSIONAL MOVE

**A.W. NEATE & SONS**

CHARTERED SURVEYORS AUCTIONEERS ESTATE AGENTS VALUERS

**FACTORIES/WAREHOUSES — TO WORK IN**

Freehold/Leasehold 1,966 sq. ft./200,000 sq. ft.

**HOUSES/COTTAGES — TO LIVE IN**

Swindon Area/Villages on the Marlborough Downs

11, VICTORIA ROAD, SWINDON SN1 2AJ. Tel: 0793 34871

**FARRANT & WIGHTMAN**

Established 1898

We currently have available:

**INDUSTRIAL/WAREHOUSE UNITS —**

2,000 sq. ft. — 80,000 sq. ft.

**SHOPS — in almost any location in Swindon**

**OFFICES — 500 sq. ft. — 70,000 sq. ft.**

Fully qualified service for valuations, surveys, letting, rent reviews, etc. Separate residential and agricultural departments.

2/3 NEWPORT STREET, SWINDON. TEL: 33301

**LOVEDAY & LOVEDAY**

DEVELOPERS: Nurseries Industrial Estate. Three remaining Factory/Warehouse Units of 5,500 sq. ft. each. £110 per sq. ft.

SWINDON: Warehouse of 8,200 sq. ft. under construction and industrial space from 2,000 to 20,000 sq. ft. TO LET.

SWINDON: Shop/Offices in good corner secondary position 1,200 sq. ft. ground with similar storage above. 1 Bedroom flat TO LET.

**RASTOCK MARKET, RASTOCK.** Commercial investment comprising 4 shops and 24 stalls. Gross income £5,500 per annum. Auction February/March.

Office: 16 High Street, Swindon. Telephone 23121



# Growth of industry

LY or another, the Everard group, the department has mounted an aggressive marketing campaign. Thamesdown, Berrett, as the town now is of the assistance it had received from its designation as an expanding town under the 1952 Town Development Act, and of most other government incentives, it is basing its campaign on its good communications, its relatively low industrial rents and its guarantee that housing will be provided for all workers brought in by new industry and commerce.

Given the size of the housing problem in the South, this homes programme takes on some importance, and the Thamesdown authority itself is currently building at a rate of 1,500 houses per year, for sale and for rent. In conjunction with an active private sector, the authority expects to be able to cope both with the increase in the borough's existing population—mainly young, and as yet with a low rate of retirement—and with that brought in by the considerable amount of new industry and offices development it hopes to attract during the life of the authority's outline 10-year plan up to 1986.

## Planning

Expansion for the next decade is to be centred on a number of planned industrial sites, mainly to the west. The first, on 80 acres at Blagrove Farm, is already under development. The first phases of another 80-acre site at Groundwell Farm, to the north, are also being taken up. These "employment areas" are being matched residentially with six "urban villages," each with 5,000-8,000 people and their own shopping centres.

and schools. The first two, Toot-hill and Freshbrook, both lying close to the Blagrove Farm industrial development, are already well down the road to completion.

Underlying the planning is a commitment to move Thamesdown on to a much broader industrial and commercial base than the mix it has had in the past, and which has left it particularly vulnerable in periods of recession.

At one stage, the town's lifeblood was the railway workshops, employing 12,000 at their peak. Ravaged by Dr. Beeching's economies of the early 1960s, the workshop there now stands at about 3,000. Thanks to new foreign orders, however, notably a large share in a £40m contract between British Rail, Hunslet Holdings and Kenya Railways to build 35 diesel locomotives, prospects in this sector are looking up. The Kenya order is big enough in itself to guarantee jobs at the Swindon works for the next two years.

Currently, the industrial-commerce and service industries mix is about 70:30. There is a strong bias towards light engineering, and though the 200 companies which have moved in during the past 25 years have eradicated the "ghost town" fears raised in Swindon's days as a one-industry town, the economic base is not broad enough yet to eradicate an unsatisfactory unemployment level among the 70,000 young and fairly skilled labour force.

Latest unemployment figures show 5,500 out of work, or some 7 per cent of the labour force—an improvement on the 8 per cent reached last year. But with the Borough also projecting a continuing high rate of school-leavers over the next ten years, there is clearly considerable pressure to achieve a target set by the Thamesdown Authority for the creation of 2,600 jobs this year and 3,000 a year for the next five years at least.

The declared aim of Douglas Smith's new department is to bring the business "mix" to a 50:50 ratio between manufacturing and the services sector. In the past year, says Smith, this kind of mix has been emerging among new arrivals. At the same time, Thamesdown is looking in two other main directions to hedge Swindon's bets against further cyclical disruptions. There is a hunt on for foreign investors (this rating as a major priority) and Smith also warns that the time must come for some, at least, environmentally "undesirable" industry like civil engineering to be installed on the outskirts if the "mix" is to be complete—a stance certain to put the borough once more at loggerheads with the County Council.

(There is no dispute about the desirability of growth between the factions on the Tory-ruled Borough Council: it is accepted as both needed and desirable. "Industrial development policy just is not a political

football here," Smith observes.) The campaign for foreign investors is being concentrated primarily on the U.S., with West Germany second and Japan third in the order of priorities. Advertising campaigns and membership in both U.S. and German Chambers of Commerce are favoured a programme of some of the avenues being explored. On the outskirts of the town, the Lydard Management Smith insists, however, that the Training Centre, a graceful old building in large landscaped grounds which the Borough took over cheaply, then refurbished at considerable expense, is being used for a series of "teach-ins" for foreign embassy officials and would-be industrialists and developers at which Thamesdown's attractions are being advocated.

Although only recently under way, the campaign shows signs of paying off. Of three large companies which may soon announce their arrival in Swindon, one at least is thought to be a large international group. If all three projects come off, they alone will create an estimated 3,000 or more extra jobs. With numerous smaller projects under discussion, there are hopes that the total figure could be nearer the 4,500 mark. Meanwhile, an American pharmaceuticals concern, R. P. Scherer, is building on the Blagrove Farm site and is expected to provide jobs for 250 when it starts operations next year. One Swedish printing company is already established; another Swedish company is said to be about to sign up for an existing factory prior to building its own in the near future.

According to the authority's latest figures, the overall rate of enquiries about locating in Thamesdown is running at 38

per month, of which more than one-third are being treated as serious, "live" possibilities. In the past, the borough has designed and built its own estates for letting, and up to even six months ago the new industrial team might have been favoured a programme of advance factories built by the Borough for prospective letting. Smith insists, however, that the pace of activity is increasing to the extent that such policies are grounds which the Borough took not, at the moment at least, necessary.

## Distribution

With four divisions of Plessey present in the town, including its electronic components operation, and a number of computerised warehousing/distribution operations such as the £3m. W. H. Smith retail distribution operation which moved to the area some years ago, one of the industrial team's goals is to attract more computer-related industry. Another, and indicative of the team's optimism, is to obtain some of the spin-off from Ford's Bridgend engine factory when it goes on stream in two years' time. It is suggested to would-be component suppliers that Bridgend is just "two hours' trucking time" down the M4 motorway.

Against this optimism must be set some worries about the town's existing industries, and which underlines the industrial team's concern to develop as fully as possible the offices and services sectors. British Leyland's car body plant, with its 5,000-strong labour force, is still the town's largest employer. In the shadow of last week's decision to close Leyland's Speke plant, and with rationalisation

the order of the day at the beleaguered car company, there is some unease about the future. In fact, however, with its strategic location for supplies to both Oxford and Birmingham assembly plants, the Swindon unit would appear to have the least to worry about in Leyland terms. It also does work for Rolls-Royce, and the type of operation itself lends it a versatility, in extremis, which would render a shutdown highly unlikely.

Of more concern is the situation at Plessey's Garrard turntables stereo equipment subsidiary, where some layoffs have taken place under the intense pressure generated by competition from Japan's manufacturers. Swindon is also the home of the "Woodbine," the small W. D. and H. O. Wills cigarette now struggling with problems created by EEC legislation which renders economic production of smaller cigarettes appears to be daunting the development team. Apart from bringing in new industry, various projects are under way to raise the standard of skills available to those industries. Most notably, there will open soon on the town's Dorcan industrial estate Britain's latest Skillscentre, which will offer half a dozen training courses in engineering, there being a certain shortage of skilled engineering workers in Swindon. Another six courses will be related to service industries. In addition the Training Services Agency, an arm of the Manpower Services Commission, plans to offer the centre's services directly to local industries, to allow them to introduce their own retaining and upgrading schemes.

John Griffiths

## BRUNEL CENTRE SWINDON

The Central Area Shop and Office Development by Thamesdown Corporation

For Details of Remaining Accommodation Apply

Victor Behrens Sandhurst & Co

12 Harley Street London W1N 2AE 01-636 2491

## Beaver House SWINDON

30,000 sq ft

prestige office accommodation TO LET

■ Air conditioning ■ 48 car spaces ■ Full carpeting ■ Two 8-person lifts

Town Centre Location

J.P. Sturge

Chartered Surveyors 37 Regent Circus Swindon SN1 1QD Telephone: (0793) 33155

Richard Ellis

Chartered Surveyors 6-10 Bruton St, London W1X 8DU Telephone 01-493 7151



dley houses under construction at Lidge Sedebrook, east of Swindon.

## Communications a key asset

to Heathrow, they of the introduction of the 125 mile an hour train service 18 months ago. Bristol is only 24 minutes away via the same service and serves as the interchange for the South-West, Midlands and the North. Not surprisingly, given its 19th century railway origins, Swindon's railhead has undergone a programme of modernisation to both freight and passenger facilities to keep pace with Thamesdown's population and industrial growth.

## Scheduled

With Heathrow so close, air cargo operations clearly are easy. Bristol airport also provides scheduled services to Cardiff, Manchester and Liverpool, the latter two giving access in turn to the full national network. There is an airport within the Thamesdown area itself, at South Marston, which provides access for general light aviation, although other airports in the immediate area are mainly RAF sites and not readily available for civilian use.

Thamesdown's arguments in favour of its location were given a further significant boost last week, when, after a six-month union boycott, Bristol's new £37m. Royal Portbury Dock was finally given the go-ahead to start operations. A mass meeting of the 1,300 dockers at Avonmouth accepted a manning agreement to end a dispute which had lasted since the docks were officially opened by the Queen last August.

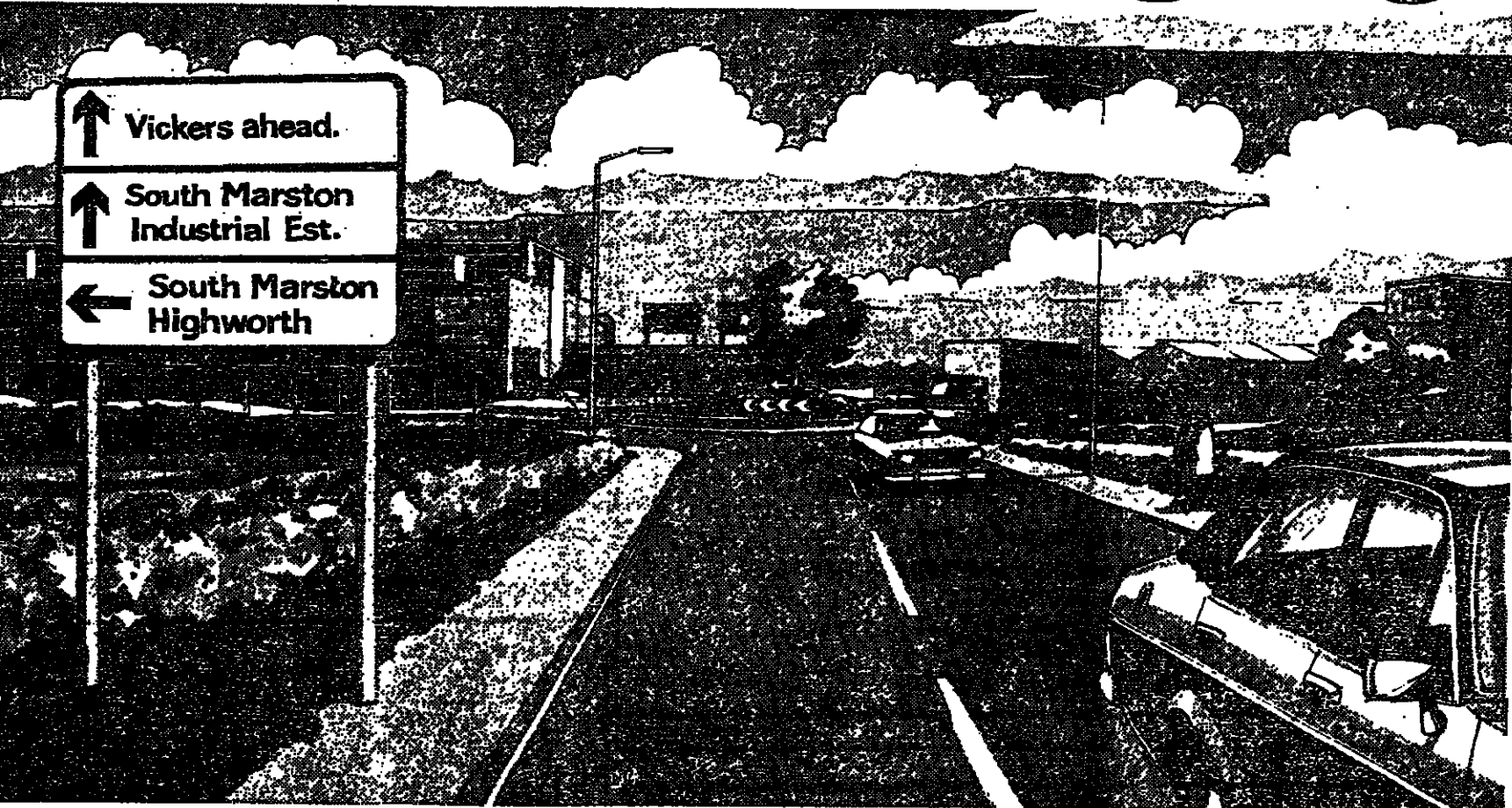
The new facility is an important one: it is under 10 miles from the M4-M5 motorway link and as such is much the easiest reached of all port facilities from Thamesdown. The Avonmouth docks complex has already been seeing increased use by Swindon industry, and Royal Portbury, developed by Bristol City Council as a counter to the rundown of the city centre docks, should accelerate the trend. As well as possessing Britain's largest tidal dock and an ability to take six vessels of up to 70,000 tons each, it has full container and roll-on roll-off facilities.

Thamesdown's location even leaves its industrial administration sanguine, at least on the surface, about the prospects of competition from the Asian Areas further to the West and the central Government supplied financial incentives they can offer. Thamesdown's relative nonchalance rests on the belief that, in the long term, the permanent prospect of ever-increasing transportation costs to markets stands a good chance of outweighing shorter-term considerations such as development grants, especially in view of what is seen as a certain capriciousness of Government policy in this field.

Quite apart from anything else, suggests Thamesdown's industrial adviser, Douglas Smith, Thamesdown is not too averse to attract companies that cannot stand on their own feet without such grants.

John Griffiths

# Before you reach us you'll see that Vickers is changing.



There have been quite a few alterations along the way for the Vickers Engineering Group at South Marston. In 20 years since the last aircraft was built at Swindon the world has changed and Vickers itself has changed to keep pace with new technologies.

Now a new programme of development will build still further on the skills and abilities of the people employed at South Marston—already so successful in achieving sales throughout the world.

Much of a £5m investment plan will go towards expansion and re-equipment of the Hydraulics Division. But Vickers at South Marston isn't just a one-product company. It is four separate businesses—each leading the way in fields of engineering, from medical equipment to nuclear test rigs, and from automated filing systems to the planning of important industrial projects.

Then, in addition, Vickers Properties Limited is actively developing the new South Marston Industrial Estate which will enable other firms to create jobs and capitalise on Swindon's geographical position.

We are, as always, looking to the future. So although we're changing our face at South Marston with new plant, new buildings and equipment, we're continuing along our chosen paths of development.



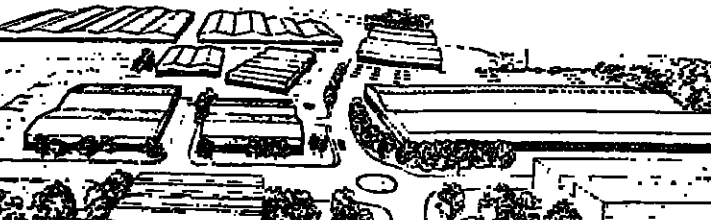
## Opportunities for expanding companies.

The new industrial estate at South Marston, developed by Vickers Properties, provides new opportunities for expansion in the area. The 25-acre estate will make available an ultimate total of some 550,000 sq. ft. of industrial buildings on the eastern outskirts of Swindon, adjacent to the Vickers South Marston Works.

The first phase of the development caters for a wide variety of factory and warehouse space, and some 60 per cent of this first phase is now under negotiation.

Units are available from 7,000 to 100,000 sq. ft. in size with flexibility to satisfy tenants' requirements. Access to the estate is good via the A419 Hungerford to Hereford trunk road, and there is a direct dual-carriageway link with the M4. Adjacent to the Estate is Vickers private airfield with facilities available to estate users.

Enquiries to Vickers Properties at the address below.



Vickers Limited, Vickers House, Millbank Tower, Millbank, London SW1P 4RA.



## STOCK EXCHANGE REPORT

# Markets steady with investment interest at low ebb

## Gold shares and Gilts up again but equities little changed

## Account Dealing Dates

**First Declared Last Account**  
**Dealings** Dealings Day  
 Jan. 30 Feb. 9 Feb. 10 Feb. 21  
 Feb. 13 Feb. 23 Feb. 24 Feb. 27  
 Feb. 27 Mar. 9 Mar. 10 Mar. 21  
 "New time" dealings may take place from 4.30 a.m. two business days earlier.

With the appalling, if freshish, January trade deficit still fresh in mind, the continuing deterioration in manufacturing order books shown in the latest survey from the Confederation of British Industry and that body's stated concern about the position led to a cautious start to the second and final leg of the Stock Exchange Account yesterday.

Business volume shrank again, official markings falling to 4,204 compared with 4,389 on Friday and 5,920 on the week-ago level. As the recent weekly British Funds became much steadier and managed to harden under the lead of the short end of the market, which closed with gains to 1, and the Government Securities index improved 0.07 to 74.73.

Leading equities, on the other hand, failed to extend the rally, tending to last Thursday and Friday. No selling pressure developed and prices were usually a shade above the day's lowest by the close but the limited range of price movements were seen in the FT-30 share index, which fell to 10.10, a new low since 1974.

Scattered firm features emerged from week-end Press comment and trading announcements, while news of two fresh bids in the late trade enlivened interest in the recent speculative favourites, James Dawson was particularly prominent at 125p, up 38, on the agreed offer from J. H. Fenner while yet another merger move in the Investment Trust world left Western Canada IT up 15 to 645p. Overall falls led rises in FT-30 share index to put on 3.1 more to 160.2 for a rise of nearly 12 per cent in the last seven trading days.

**Gilts quietly firm**  
 The prospect of a week without any scheduled major trading influences caused a reduction of business in Gilts-edged but at the same time it allowed the market to settle after the past fortnight's volatility. Reported threats by militant power workers for industrial action were not taken too

seriously and both short- and long-dated maturities began marginally firmer. Although interest was slow, the former were undisturbed by a late morning reactionary trend and thereafter edged forward to close a maximum of a half-point higher, continuing the movement in sparse after-hours dealings. High-coupon longs surrendered the early improvement when reverting to Friday's list levels, but encouraged by the tone in the shorts, they too progressed in the end, usually by 1. Rare gains of a similar nature were established by Corporations, but Southern Rhodesian bonds marked time awaiting developments in the constitutional issue; the 21 per cent 1965/70 stock remained at 553.

Business increased as rates for investment currency continued to rise. The malaise of the day's demand was institutional, often needed for the purpose of investment in U.S. securities, which outweighed offerings on Far Eastern arbitrage account. From a slightly easier to 524 per cent, before settling a point higher on balance at 525 per cent. Yesterday's SE conversion factor was 0.7294 (0.7350).

**Banks trade slowly**  
 Activity in Banks was minimal, which reported annual profits at the top end of market estimates last Friday, cheapened to 2.60p, while Barclays closed the turn easier at 313p; the latter's preliminary figures are after Thursday. Elsewhere, further consideration of the record profits and proposed 100 per cent scrip-issue helped Wagon Finance harden a penny more to 50p, while NatWest rose to 175p among mixed Merchant Banks.

Previews generally marked time, although Rans Christenson hardened a penny to 142p, following the Price Commission's permission for a 2p a pint beer price increase.

Among irregular Buildings, Orme Developments reacted sharply to 30p on disappointment with the interim profits setback before rallying to close only a penny easier at 54p following consideration of the Board's reassuring views about second-half prospects. Slindens couple of a penny higher at 243p in front of the preliminary results.

Marchwell slipped back to finish 2 off at 240p, John Laing A shed 3 to 142p and Barratt Developments softened 2 to 111p but 31pnet and Southwicks were marked up 2 to 187p in response to Press comment H. and R. Johnson-Richards Tiles put on 4 to 325p and Benford Machinery 3 to 35p.

Chemicals passed a quiet session, ICI being hardly tested at 344p, down a penny; the preliminary figures are due on Wednesday, a recent speculative

Thursday. Albright and Wilson, at 100p, lost 3 of last Friday's gain of 9 which followed comment on the record profits. Coates Bros., however, hardened to 70p.

A firm market last week followed investment comment, Scottish TV A were wanted again at 67p, up 2.

**Mail orders dull**  
 Stores were notable mainly for dullness in Mail Order concerning following adverse comment, which left Freemans 6 lower at 244p and Gratian Warehouses and Empire both 4 easier at 120p and 145p respectively. The Store leaders drifted down on lack of support

of between 3 and 5 were seen in J. F. Nash Securities, 67p, Mitchell Coats Transport, 45p and Campari, 109p. Apart from Bowater, a penny better at 189p, and Reed International, which were 2 harder at 109p in response to Press comment, the leaders drifted a shade lower in thin trading. Publicity given to a brokers' adverse circular prompted a fall from 2 to 407 in the stock and Colman. Unlever sustained a similar fall at 490p; the preliminary results are due early next month.

Movements of note were few in Motors and Distributors. British Leyland eased to 23p following publicity given to the east of the closure of the company's Stoke plant in Liverpool and Glasfield Lawrence eased a penny to 32p after the chairman's annual statement. H. Perry were lowered 4 to 165p, while the 50p, 65p, and 70p, as did Assam Investments, 110p, and Lunua, 147p, shed 2 apiece.

A week-end Press suggestion of a possible bid from Trafalgar House Investments drew buyers' attention to Associated Book Publishers, which added 5 to 189p. Interest in the Property sector was at a low ebb. Among the leaders, Land Securities drifted back to 212p before settling at 213p for a loss of 2 on balance, while NEPC finished similarly lower at 119p. Elsewhere, falls of 5 were sustained by Churchbury, 247p, and McKay Securities, 185p, but Estates Property Investment met with sporadic support ahead of Thursday's interim results and rose 4 to 60p. United Real regained 3 to 255p and Imry hardened a few pence to 302p. In contrast, Sampson gave up 2 to 52p and Great Portland were a like amount lower at 312p.

**Oil leaders held up quite well**  
 despite the continuing paucity of business. British Petroleum finished a few pence cheaper at 756p, but Shell managed to harden a shade to 500p. Among the speculative issues, Siebens (U.K.), 558p, following a strong local demand, were outstanding with a 12 rise to a 1977-78 high of 143p while Brackeen rose 4 to 535p.

South African Financials gained ground in sympathy with Gilts. De Beers were a feature with a 11 gain at a 1977-78 high of 317p, while Anglo American hardened 3 to 275p in front of the interim results which are expected on Thursday. UC Investments put on 6 to 1977-78 high of 232p. Platinum moved ahead in response to favourable Press mention. Bishoppate and Lyden were both 3 higher at 191p and 64p respectively, while Rustenburg closed 2 firmer at 85p. London Financials showed Gold Fields 3 up at 191p reflecting the higher bullion price. Among Australian Financials, Wallend advanced 12 to 446p

and British Home shed 5 to 181p, while Guinness A cheapened 4 to 270p and W. H. Smith A declined 2 to 144p. Elsewhere, Midland Educational improved 3 to 88p and Customagie revived with a gain of 2 to 21p.

The Electrical leaders passed a lethargic session. GEC edged up a few pence to 257p, but Plessey closed without alteration at 91p. Secondary issues fared little better in the way of activity, although occasional bright spots included United Scientific, up 4 to 269p and G. H. Scholes, similarly better at 280p. On the other hand, minor falls of 2 were recorded in MK Electric, 166p, and Pethow, 182p, while Decca eased 3 to 420p. H. Wifall eased 2 to 225p awaiting any developments in the bid situation.

Apart from a late flurry in GKN, which ended 3 to the good at 279p, little of interest occurred in the Engineering majors. Tubes eased to 366p before settling at 367p for a net fall of 2, while Vickers finished a shade lower at 173p. Taylor Pallister stood out with a rise of 4 to 75p in response to favourable week-end Press mention. General Engineering Radcliffe advanced to 25p for a similar reason, but closed only a penny cheaper on balance at 23p. Weir Group, a recent speculative

down 2, but Cadbury Schweppes held at 54; the last named is to close its Typhoo tea factory in Birmingham. J. Bibby reacted 5 to 208p as bid hopes faded, while J. Mainsbury eased 3 to 167p and Rowles Mackintosh 4 to 358p. In a thin market, Joseph Stocks fell 10 to 170p on the static first-half performance. Fitch Lovell were reactionary, losing 2 to 69p for a two-day loss of 3. On the other hand, Nurdin and Peacock hardened 2 to 94p and Pork Farms rose 5 to a 1977-78 peak of 422p.

**Jas. Dawson up on bid**  
 Miscellaneous Industrials were highlighted by a late jump of 30 to 126p in James Dawson following the agreed bid from J. H. Fenner, which eased 4 to 134p. A firm market since a large shareholding changed hands early last week, Hoskins and Horton hardened 2 more to 143p following Press comment. Others to gain ground after investment comment included Dunbee Convey, 142p, and Office and Electronic, 98p, both of which rose a couple of pence, while Bank Bridge closed a fraction harder at 5p. Still reflecting the chairman's recent decision to sell half of his holding, ICL remained on offer at 238p, down 4, after 235p, while losses

of between 3 and 5 were seen in J. F. Nash Securities, 67p, Mitchell Coats Transport, 45p and Campari, 109p. Apart from Bowater, a penny better at 189p, and Reed International, which were 2 harder at 109p in response to Press comment, the leaders drifted a shade lower in thin trading. Publicity given to a brokers' adverse circular prompted a fall from 2 to 407 in the stock and Colman. Unlever sustained a similar fall at 490p; the preliminary results are due early next month.

Movements of note were few in Motors and Distributors. British Leyland eased to 23p following publicity given to the east of the closure of the company's Stoke plant in Liverpool and Glasfield Lawrence eased a penny to 32p after the chairman's annual statement. H. Perry were lowered 4 to 165p, while the 50p, 65p, and 70p, as did Assam Investments, 110p, and Lunua, 147p, shed 2 apiece.

A week-end Press suggestion of a possible bid from Trafalgar House Investments drew buyers' attention to Associated Book Publishers, which added 5 to 189p. Interest in the Property sector was at a low ebb. Among the leaders, Land Securities drifted back to 212p before settling at 213p for a loss of 2 on balance, while NEPC finished similarly lower at 119p. Elsewhere, falls of 5 were sustained by Churchbury, 247p, and McKay Securities, 185p, but Estates Property Investment met with sporadic support ahead of Thursday's interim results and rose 4 to 60p. United Real regained 3 to 255p and Imry hardened a few pence to 302p. In contrast, Sampson gave up 2 to 52p and Great Portland were a like amount lower at 312p.

**Oil leaders held up quite well**  
 despite the continuing paucity of business. British Petroleum finished a few pence cheaper at 756p, but Shell managed to harden a shade to 500p. Among the speculative issues, Siebens (U.K.), 558p, following a strong local demand, were outstanding with a 12 rise to a 1977-78 high of 143p while Brackeen rose 4 to 535p.

South African Financials gained ground in sympathy with Gilts. De Beers were a feature with a 11 gain at a 1977-78 high of 317p, while Anglo American hardened 3 to 275p in front of the interim results which are expected on Thursday. UC Investments put on 6 to 1977-78 high of 232p. Platinum moved ahead in response to favourable Press mention. Bishoppate and Lyden were both 3 higher at 191p and 64p respectively, while Rustenburg closed 2 firmer at 85p. London Financials showed Gold Fields 3 up at 191p reflecting the higher bullion price. Among Australian Financials, Wallend advanced 12 to 446p

and British Home shed 5 to 181p, while Guinness A cheapened 4 to 270p and W. H. Smith A declined 2 to 144p. Elsewhere, Midland Educational improved 3 to 88p and Customagie revived with a gain of 2 to 21p.

The Electrical leaders passed a lethargic session. GEC edged up a few pence to 257p, but Plessey closed without alteration at 91p. Secondary issues fared little better in the way of activity, although occasional bright spots included United Scientific, up 4 to 269p and G. H. Scholes, similarly better at 280p. On the other hand, minor falls of 2 were recorded in MK Electric, 166p, and Pethow, 182p, while Decca eased 3 to 420p. H. Wifall eased 2 to 225p awaiting any developments in the bid situation.

Apart from a late flurry in GKN, which ended 3 to the good at 279p, little of interest occurred in the Engineering majors. Tubes eased to 366p before settling at 367p for a net fall of 2, while Vickers finished a shade lower at 173p. Taylor Pallister stood out with a rise of 4 to 75p in response to favourable week-end Press mention. General Engineering Radcliffe advanced to 25p for a similar reason, but closed only a penny cheaper on balance at 23p. Weir Group, a recent speculative

down 2, but Cadbury Schweppes held at 54; the last named is to close its Typhoo tea factory in Birmingham. J. Bibby reacted 5 to 208p as bid hopes faded, while J. Mainsbury eased 3 to 167p and Rowles Mackintosh 4 to 358p. In a thin market, Joseph Stocks fell 10 to 170p on the static first-half performance. Fitch Lovell were reactionary, losing 2 to 69p for a two-day loss of 3. On the other hand, Nurdin and Peacock hardened 2 to 94p and Pork Farms rose 5 to a 1977-78 peak of 422p.

**Jas. Dawson up on bid**  
 Miscellaneous Industrials were highlighted by a late jump of 30 to 126p in James Dawson following the agreed bid from J. H. Fenner, which eased 4 to 134p. A firm market since a large shareholding changed hands early last week, Hoskins and Horton hardened 2 more to 143p following Press comment. Others to gain ground after investment comment included Dunbee Convey, 142p, and Office and Electronic, 98p, both of which rose a couple of pence, while Bank Bridge closed a fraction harder at 5p. Still reflecting the chairman's recent decision to sell half of his holding, ICL remained on offer at 238p, down 4, after 235p, while losses

of between 3 and 5 were seen in J. F. Nash Securities, 67p, Mitchell Coats Transport, 45p and Campari, 109p. Apart from Bowater, a penny better at 189p, and Reed International, which were 2 harder at 109p in response to Press comment, the leaders drifted a shade lower in thin trading. Publicity given to a brokers' adverse circular prompted a fall from 2 to 407 in the stock and Colman. Unlever sustained a similar fall at 490p; the preliminary results are due early next month.

Movements of note were few in Motors and Distributors. British Leyland eased to 23p following publicity given to the east of the closure of the company's Stoke plant in Liverpool and Glasfield Lawrence eased a penny to 32p after the chairman's annual statement. H. Perry were lowered 4 to 165p, while the 50p, 65p, and 70p, as did Assam Investments, 110p, and Lunua, 147p, shed 2 apiece.

A week-end Press suggestion of a possible bid from Trafalgar House Investments drew buyers' attention to Associated Book Publishers, which added 5 to 189p. Interest in the Property sector was at a low ebb. Among the leaders, Land Securities drifted back to 212p before settling at 213p for a loss of 2 on balance, while NEPC finished similarly lower at 119p. Elsewhere, falls of 5 were sustained by Churchbury, 247p, and McKay Securities, 185p, but Estates Property Investment met with sporadic support ahead of Thursday's interim results and rose 4 to 60p. United Real regained 3 to 255p and Imry hardened a few pence to 302p. In contrast, Sampson gave up 2 to 52p and Great Portland were a like amount lower at 312p.

**Oil leaders held up quite well**  
 despite the continuing paucity of business. British Petroleum finished a few pence cheaper at 756p, but Shell managed to harden a shade to 500p. Among the speculative issues, Siebens (U.K.), 558p, following a strong local demand, were outstanding with a 12 rise to a 1977-78 high of 143p while Brackeen rose 4 to 535p.

South African Financials gained ground in sympathy with Gilts. De Beers were a feature with a 11 gain at a 1977-78 high of 317p, while Anglo American hardened 3 to 275p in front of the interim results which are expected on Thursday. UC Investments put on 6 to 1977-78 high of 232p. Platinum moved ahead in response to favourable Press mention. Bishoppate and Lyden were both 3 higher at 191p and 64p respectively, while Rustenburg closed 2 firmer at 85p. London Financials showed Gold Fields 3 up at 191p reflecting the higher bullion price. Among Australian Financials, Wallend advanced 12 to 446p

and British Home shed 5 to 181p, while Guinness A cheapened 4 to 270p and W. H. Smith A declined 2 to 144p. Elsewhere, Midland Educational improved 3 to 88p and Customagie revived with a gain of 2 to 21p.

The Electrical leaders passed a lethargic session. GEC edged up a few pence to 257p, but Plessey closed without alteration at 91p. Secondary issues fared little better in the way of activity, although occasional bright spots included United Scientific, up 4 to 269p and G. H. Scholes, similarly better at 280p. On the other hand, minor falls of 2 were recorded in MK Electric, 166p, and Pethow, 182p, while Decca eased 3 to 420p. H. Wifall eased 2 to 225p awaiting any developments in the bid situation.

Apart from a late flurry in GKN, which ended 3 to the good at 279p, little of interest occurred in the Engineering majors. Tubes eased to 366p before settling at 367p for a net fall of 2, while Vickers finished a shade lower at 173p. Taylor Pallister stood out with a rise of 4 to 75p in response to favourable week-end Press mention. General Engineering Radcliffe advanced to 25p for a similar reason, but closed only a penny cheaper on balance at 23p. Weir Group, a recent speculative

down 2, but Cadbury Schweppes held at 54; the last named is to close its Typhoo tea factory in Birmingham. J. Bibby reacted 5 to 208p as bid hopes faded, while J. Mainsbury eased 3 to 167p and Rowles Mackintosh 4 to 358p. In a thin market, Joseph Stocks fell 10 to 170p on the static first-half performance. Fitch Lovell were reactionary, losing 2 to 69p for a two-day loss of 3. On the other hand, Nurdin and Peacock hardened 2 to 94p and Pork Farms rose 5 to a 1977-78 peak of 422p.

**Jas. Dawson up on bid**  
 Miscellaneous Industrials were highlighted by a late jump of 30 to 126p in James Dawson following the agreed bid from J. H. Fenner, which eased 4 to 134p. A firm market since a large shareholding changed hands early last week, Hoskins and Horton hardened 2 more to 143p following Press comment. Others to gain ground after investment comment included Dunbee Convey, 142p, and Office and Electronic, 98p, both of which rose a couple of pence, while Bank Bridge closed a fraction harder at 5p. Still reflecting the chairman's recent decision to sell half of his holding, ICL remained on offer at 238p, down 4, after 235p, while losses

of between 3 and 5 were seen in J. F. Nash Securities, 67p, Mitchell Coats Transport, 45p and Campari, 109p. Apart from Bowater, a penny better at 189p, and Reed International, which were 2 harder at 109p in response to Press comment, the leaders drifted a shade lower in thin trading. Publicity given to a brokers' adverse circular prompted a fall from 2 to 407 in the stock and Colman. Unlever sustained a similar fall at 490p; the preliminary results are due early next month.

Movements of note were few in Motors and Distributors. British Leyland eased to 23p following publicity given to the east of the closure of the company's Stoke plant in Liverpool and Glasfield Lawrence eased a penny to 32p after the chairman's annual statement. H. Perry were lowered 4 to 165p, while the 50p, 65p, and 70p, as did Assam Investments, 110p, and Lunua, 147p, shed 2 apiece.

A week-end Press suggestion of a possible bid from Trafalgar House Investments drew buyers' attention to Associated Book Publishers, which added 5 to 189p. Interest in the Property sector was at a low ebb. Among the leaders, Land Securities drifted back to 212p before settling at 213p for a loss of 2 on balance, while NEPC finished similarly lower at 119p. Elsewhere, falls of 5 were sustained by Churchbury, 247p, and McKay Securities, 185p, but Estates Property Investment met with sporadic support ahead of Thursday's interim results and rose 4 to 60p. United Real regained 3 to 255p and Imry hardened a few pence to 302p. In contrast, Sampson gave up 2 to 52p and Great Portland were a like amount lower at 312p.

**Oil leaders held up quite well**  
 despite the continuing paucity of business. British Petroleum finished a few pence cheaper at 756p, but Shell managed to harden a shade to 500p. Among the speculative issues, Siebens (U.K.), 558p, following a strong local demand, were outstanding with a 12 rise to a 1977-78 high of 143p while Brackeen rose 4 to 535p.

South African Financials gained ground in sympathy with Gilts. De Beers were a feature with a 11 gain at a 1977-78 high of 317p, while Anglo American hardened 3 to 275p in front of the interim results which are expected on Thursday. UC Investments put on 6 to 1977-78 high of 232p. Platinum moved ahead in response to favourable Press mention. Bishoppate and Lyden were both 3 higher at 191p and 64p respectively, while Rustenburg closed 2 firmer at 85p. London Financials showed Gold Fields 3 up at 191p reflecting the higher bullion price. Among Australian Financials, Wallend advanced 12 to 446p

and British Home shed 5 to 181p, while Guinness A cheapened 4 to 270p and W. H. Smith A declined 2 to 144p. Elsewhere, Midland Educational improved 3 to 88p and Customagie revived with a gain of 2 to 21p.

The Electrical leaders passed a lethargic session. GEC edged up a few pence to 257p, but Plessey closed without alteration at 91p. Secondary issues fared little better in the way of activity, although occasional bright spots included United Scientific, up 4 to 269p and G. H. Scholes, similarly better at 280p. On the other hand, minor falls of 2 were recorded in MK Electric, 166p, and Pethow, 182p, while Decca eased 3 to 420p. H. Wifall eased 2 to 225p awaiting any developments in the bid situation.

Apart from a late flurry in GKN, which ended 3 to the good at 279p, little of interest occurred in the Engineering majors. Tubes eased to 366p before settling at 367p for a net fall of 2, while Vickers finished a shade lower at 173p. Taylor Pallister stood out with a rise of 4 to 75p in response to favourable week-end Press mention. General Engineering Radcliffe advanced to 25p for a similar reason, but closed only a penny cheaper on balance at 23p. Weir Group, a recent speculative

## FINANCIAL TIMES STOCK INDICES

	Feb. 20	Feb. 17	Feb. 16	Feb. 15	Feb. 14	Feb. 13	Feb. 12	Feb. 11	Feb. 10	Feb. 9	Feb. 8	Feb. 7	Feb. 6	Feb. 5	Feb. 4	Feb. 3	Feb. 2	Feb. 1	Jan. 31	Jan. 30	Jan. 29	Jan. 28	Jan. 27	Jan. 26	Jan. 25	Jan. 24	Jan. 23	Jan. 22	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 16	Jan. 15	Jan. 14	Jan. 13	Jan. 12	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	Jan. 6	Jan. 5	Jan. 4	Jan. 3	Jan. 2	Jan. 1	Dec. 31	Dec. 30	Dec. 29	Dec. 28	Dec. 27	Dec. 26	Dec. 25	Dec. 24	Dec. 23	Dec. 22	Dec. 21	Dec. 20	Dec. 19	Dec. 18	Dec. 17	Dec. 16	Dec. 15	Dec. 14	Dec. 13	Dec. 12	Dec. 11	Dec. 10	Dec. 9	Dec. 8	Dec. 7	Dec. 6	Dec. 5	Dec. 4	Dec. 3	Dec. 2	Dec. 1	Nov. 30	Nov. 29	Nov. 28	Nov. 27	Nov. 26	Nov. 25	Nov. 24	Nov. 23	Nov. 22	Nov. 21	Nov. 20	Nov. 19	Nov. 18	Nov. 17	Nov. 16	Nov. 15	Nov. 14	Nov. 13	Nov. 12	Nov. 11	Nov. 10	Nov. 9	Nov. 8	Nov. 7	Nov. 6	Nov. 5	Nov. 4	Nov. 3	Nov. 2	Nov. 1	Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	Oct. 25	Oct. 24	Oct. 23	Oct. 22	Oct. 21	Oct. 20	Oct. 19	Oct. 18	Oct. 17	Oct. 16	Oct. 15	Oct. 14	Oct. 13	Oct. 12	Oct. 11	Oct. 10	Oct. 9	Oct. 8	Oct. 7	Oct. 6	Oct. 5	Oct. 4	Oct. 3	Oct. 2	Oct. 1	Sep. 30	Sep. 29	Sep. 28	Sep. 27	Sep. 26	Sep. 25	Sep. 24	Sep. 23	Sep. 22	Sep. 21	Sep. 20	Sep. 19	Sep. 18	Sep. 17	Sep. 16	Sep. 15	Sep. 14	Sep. 13	Sep. 12	Sep. 11	Sep. 10	Sep. 9	Sep. 8	Sep. 7	Sep. 6	Sep. 5	Sep. 4	Sep. 3	Sep. 2	Sep. 1	Aug. 31	Aug. 30	Aug. 29	Aug. 28	Aug. 27	Aug. 26	Aug. 25	Aug. 24	Aug. 23	Aug. 22	Aug. 21	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	Aug. 14	Aug. 13	Aug. 12	Aug. 11	Aug. 10	Aug. 9	Aug. 8	Aug. 7	Aug. 6	Aug. 5	Aug. 4	Aug. 3	Aug. 2	Aug. 1	Jul. 31	Jul. 30	Jul. 29	Jul. 28	Jul. 27	Jul. 26	Jul. 25	Jul. 24	Jul. 23	Jul. 22	Jul. 21	Jul. 20	Jul. 19	Jul. 18	Jul. 17	Jul. 16	Jul. 15	Jul. 14	Jul. 13	Jul. 12	Jul. 11	Jul. 10	Jul. 9	Jul. 8	Jul. 7	Jul. 6	Jul. 5	Jul. 4	Jul. 3	Jul. 2	Jul. 1	Jun. 30	Jun. 29	Jun. 28	Jun. 27	Jun. 26	Jun. 25	Jun. 24	Jun. 23	Jun. 22	Jun. 21	Jun. 20	Jun. 19	Jun. 18	Jun. 17	Jun. 16	Jun. 15	Jun. 14	Jun. 13	Jun. 12	Jun. 11	Jun. 10	Jun. 9	Jun. 8	Jun. 7	Jun. 6	Jun. 5	Jun. 4	Jun. 3	Jun. 2	Jun. 1	May 31	May 30	May 29	May 28	May 27	May 26	May 25	May 24	May 23	May 22	May 21	May 20	May 19	May 18	May 17	May 16	May 15	May 14	May 13	May 12	May 11	May 10	May 9	May 8	May 7	May 6	May 5	May 4	May 3	May 2	May 1	Apr. 30	Apr. 29	Apr. 28	Apr. 27	Apr. 26	Apr. 25	Apr. 24	Apr. 23	Apr. 22	Apr. 21	Apr. 20	Apr. 19	Apr. 18	Apr. 17	Apr. 16	Apr. 15	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 9	Apr. 8	Apr. 7	Apr. 6	Apr. 5	Apr. 4	Apr. 3	Apr. 2	Apr. 1	Mar. 31	Mar. 30	Mar. 29	Mar. 28	Mar. 27	Mar. 26	Mar. 25	Mar. 24	Mar. 23	Mar. 22	Mar. 21	Mar. 20	Mar. 19	Mar. 18	Mar. 17	Mar. 16	Mar. 15	Mar. 14	Mar. 13	Mar. 12	Mar. 11	Mar. 10	Mar. 9	Mar. 8	Mar. 7	Mar. 6	Mar. 5	Mar. 4	Mar. 3	Mar. 2	Mar. 1	Feb. 28	Feb. 27	Feb. 26	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 21	Feb. 20	Feb. 19	Feb. 18	Feb. 17	Feb. 16	Feb. 15	Feb. 14	Feb. 13	Feb. 12	Feb. 11	Feb. 10	Feb. 9	Feb. 8	Feb. 7	Feb. 6	Feb. 5	Feb. 4	Feb. 3	Feb. 2	Feb. 1	Jan. 31	Jan. 30	Jan. 29	Jan. 28	Jan. 27	Jan. 26	Jan. 25	Jan. 24	Jan. 23	Jan. 22	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 16	Jan. 15	Jan. 14	Jan. 13	Jan. 12	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	Jan. 6	Jan. 5	Jan. 4	Jan. 3	Jan. 2	Jan. 1	Dec. 31	Dec. 30	Dec. 29	Dec. 28	Dec. 27	Dec. 26	Dec. 25	Dec. 24	Dec. 23	Dec. 22	Dec. 21	Dec. 20	Dec. 19	Dec. 18	Dec. 17	Dec. 16	Dec. 15	Dec. 14	Dec. 13	Dec. 12	Dec. 11	Dec. 10	Dec. 9	Dec. 8	Dec. 7	Dec. 6	Dec. 5	Dec. 4	Dec. 3	Dec. 2	Dec. 1	Nov. 30	Nov. 29	Nov. 28	Nov. 27	Nov. 26	Nov. 25	Nov. 24	Nov. 23	Nov. 22	Nov. 21	Nov. 20	Nov. 19	Nov. 18	Nov. 17	Nov. 16	Nov. 15	Nov. 14	Nov. 13	Nov. 12	Nov. 11	Nov. 10	Nov. 9	Nov. 8	Nov. 7	Nov. 6	Nov. 5	Nov. 4	Nov. 3	Nov. 2	Nov. 1	Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	Oct. 25	Oct. 24	Oct. 23	Oct. 22	Oct. 21	Oct. 20	Oct. 19	Oct. 18	Oct. 17	Oct. 16	Oct. 15	Oct. 14	Oct. 13	Oct. 12	Oct. 11	Oct. 10	Oct. 9	Oct. 8	Oct. 7	Oct. 6	Oct. 5	Oct. 4	Oct. 3	Oct. 2	Oct. 1	Sep. 30	Sep. 29	Sep. 28	Sep. 27	Sep. 26	Sep. 25	Sep. 24	Sep. 23	Sep. 22	Sep. 21	Sep. 20	Sep. 19	Sep. 18	Sep. 17	Sep. 16	Sep. 15	Sep. 14	Sep. 13	Sep. 12	Sep. 11	Sep. 10	Sep. 9	Sep. 8	Sep. 7	Sep. 6	Sep. 5	Sep. 4	Sep. 3	Sep. 2	Sep. 1	Aug. 31	Aug. 30	Aug. 29	Aug. 28	Aug. 27	Aug. 26	Aug. 25	Aug. 24	Aug. 23	Aug. 22	Aug. 21	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	Aug. 14	Aug. 13	Aug. 12	Aug. 11	Aug. 10	Aug. 9	Aug. 8	Aug. 7	Aug. 6	Aug. 5	Aug. 4	Aug. 3	Aug. 2	Aug. 1	Jul. 31	Jul. 30	Jul. 29	Jul. 28	Jul. 27	Jul. 26	Jul. 25	Jul. 24	Jul. 23	Jul. 22	Jul. 21	Jul. 20	Jul. 19	Jul. 18	Jul. 17	Jul. 16	Jul. 15	Jul. 14	Jul. 13	Jul. 12	Jul. 11	Jul. 10	Jul. 9	Jul. 8	Jul. 7	Jul. 6	Jul. 5	Jul. 4	Jul. 3	Jul. 2	Jul. 1	Jun. 30	Jun. 29	Jun. 28	Jun. 27	Jun. 26	Jun. 25	Jun. 24	Jun. 23	Jun. 22	Jun. 21	Jun. 20	Jun. 19	Jun. 18	Jun. 17	Jun. 16	Jun. 15	Jun. 14	Jun. 13	Jun. 12	Jun. 11	Jun. 10	Jun. 9	Jun. 8	Jun. 7	Jun. 6	Jun. 5	Jun. 4	Jun. 3	Jun. 2	Jun. 1	May 31	May 30	May 29	May 28	May 27	May 26	May 25	May 24	May 23	May 22	May 21	May 20	May 19	May 18	May 17	May 16	May 15	May 14	May 13	May 12	May 11	May 10	May 9	May 8	May 7	May 6	May 5	May 4	May 3	May 2	May 1	Apr. 30	Apr. 29	Apr. 28	Apr. 27	Apr. 26	Apr. 25	Apr. 24	Apr. 23	Apr. 22	Apr. 21	Apr. 20	Apr. 19	Apr. 18	Apr. 17	Apr. 16	Apr. 15	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 9	Apr. 8	Apr. 7	Apr. 6	Apr. 5	Apr. 4	Apr. 3	Apr. 2	Apr. 1	Mar. 31	Mar. 30	Mar. 29	Mar. 28	Mar. 27	Mar. 26	Mar. 25	Mar. 24	Mar. 23	Mar. 22	Mar. 21	Mar. 20	Mar. 19	Mar. 18	Mar. 17	Mar. 16	Mar. 15	Mar. 14	Mar. 13	Mar. 12	Mar. 11	Mar. 10	Mar. 9	Mar. 8	Mar. 7	Mar. 6	Mar. 5	Mar. 4	Mar. 3	Mar. 2	Mar. 1	Feb. 28	Feb. 27	Feb. 26	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 21	Feb. 20	Feb. 19	Feb. 18	Feb. 17	Feb. 16	Feb. 15	Feb. 14	Feb. 13	Feb. 12	Feb. 11	Feb. 10	Feb. 9	Feb. 8	Feb. 7	Feb. 6	Feb. 5	Feb. 4	Feb. 3	Feb. 2	Feb. 1	Jan. 31	Jan. 30	Jan. 29	Jan. 28	Jan. 27	Jan. 26	Jan. 25	Jan. 24	Jan. 23	Jan. 22	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 16	Jan. 15	Jan. 14	Jan. 13	Jan. 12	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	Jan. 6	Jan. 5	Jan. 4	Jan. 3	Jan. 2	Jan. 1	Dec. 31	Dec. 30	Dec. 29	Dec. 28	Dec. 27	Dec. 26	Dec. 25	Dec. 24	Dec. 23	Dec. 22	Dec. 21	Dec. 20	Dec. 19	Dec. 18	Dec. 17	Dec. 16	Dec. 15	Dec. 14	Dec. 13	Dec. 12	Dec. 11	Dec. 10	Dec. 9	Dec. 8	Dec. 7	Dec. 6	Dec. 5	Dec. 4	Dec. 3	Dec. 2	Dec. 1	Nov. 30	Nov. 29	Nov. 28	Nov. 27	Nov. 26	Nov. 25	Nov. 24	Nov. 23	Nov. 22	Nov. 21	Nov. 20	Nov. 19	Nov. 18	Nov. 17	Nov. 16	Nov. 15	Nov. 14	Nov. 13	Nov. 12	Nov. 11	Nov. 10	Nov. 9	Nov. 8	Nov. 7	Nov. 6	Nov. 5	Nov. 4	Nov. 3	Nov. 2	Nov. 1	Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	Oct. 25	Oct. 24	Oct. 23	Oct. 22	Oct. 21	Oct. 20	Oct. 19	Oct. 18	Oct. 17	Oct. 16	Oct. 15	Oct. 14	Oct. 13	Oct. 12	Oct. 11	Oct. 10	Oct. 9	Oct. 8	Oct. 7	Oct. 6	Oct. 5	Oct. 4	Oct. 3	Oct. 2	Oct. 1	Sep. 30	Sep. 29	Sep. 28	Sep. 27	Sep. 26	Sep. 25	Sep. 24	Sep. 23	Sep. 22	Sep. 21	Sep. 20	Sep. 19	Sep. 18	Sep. 17	Sep. 16	Sep. 15	Sep. 14	Sep. 13	Sep. 12	Sep. 11	Sep. 10	Sep. 9	Sep. 8	Sep. 7	Sep. 6	Sep. 5	Sep. 4	Sep. 3	Sep. 2	Sep. 1	Aug. 31	Aug. 30	Aug. 29	Aug. 28	Aug. 27	Aug. 26	Aug. 25	Aug. 24	Aug. 23	Aug. 22	Aug. 21	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	Aug. 14	Aug. 13	Aug. 12	Aug. 11	Aug. 10	Aug. 9	Aug. 8	Aug. 7	Aug. 6	Aug. 5	Aug. 4	Aug. 3	Aug. 2	Aug. 1	Jul. 31	Jul. 30	Jul. 29	Jul. 28	Jul. 27	Jul. 26	Jul. 25	Jul. 24	Jul. 23	Jul. 22	Jul. 21	Jul. 20	Jul. 19	Jul. 18	Jul. 17	Jul. 16	Jul. 15	Jul. 14	Jul. 13	Jul. 12	Jul. 11	Jul. 10	Jul. 9	Jul. 8	Jul. 7	Jul. 6	Jul. 5	Jul. 4	Jul. 3	Jul. 2	Jul. 1	Jun. 30	Jun. 29	Jun. 28	Jun. 27	Jun. 26	Jun. 25	Jun. 24	Jun. 23	Jun. 22	Jun. 21	Jun. 20	Jun. 19	Jun. 18	Jun. 17	Jun. 16	Jun. 15	Jun. 14	Jun. 13	Jun. 12	Jun. 11	Jun. 10	Jun. 9	Jun. 8	Jun. 7	Jun. 6	Jun. 5	Jun. 4	Jun. 3	Jun. 2	Jun. 1	May 31	May 30	May 29	May 28	May 27	May 26	May 25	May 24	May 23	May 22	May 21	May 20	May 19	May 18	May 17	May 16	May 15	May 14	May 13	May 12	May 11	May 10	May 9	May 8	May 7	May 6	May 5	May 4	May 3	May 2	May 1	Apr. 30	Apr. 29	Apr. 28	Apr. 27	Apr. 26	Apr. 25	Apr. 24	Apr. 23	Apr. 22	Apr. 21	Apr. 20	Apr. 19	Apr. 18	Apr. 17	Apr. 16	Apr. 15	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 9	Apr. 8	Apr. 7	Apr. 6	Apr. 5	Apr. 4	Apr. 3	Apr. 2	Apr. 1	Mar. 31	Mar. 30	Mar. 29	Mar. 28	Mar. 27	Mar. 26	Mar. 25	Mar. 24	Mar. 23	Mar. 22	Mar. 21	Mar. 20	Mar. 19	Mar. 18	Mar. 17	Mar. 16	Mar. 15	Mar. 14	Mar. 13	Mar. 12	Mar. 11	Mar. 10	Mar. 9	Mar. 8	Mar. 7	Mar. 6	Mar. 5	Mar. 4	Mar. 3	Mar. 2	Mar. 1	Feb. 28	Feb. 27	Feb. 26	Feb. 25	Feb. 24	Feb. 23	Feb. 22	Feb. 21	Feb. 20	Feb. 19	Feb. 18	Feb. 17	Feb. 16	Feb. 15	Feb. 14	Feb. 13	Feb. 12	Feb. 11	Feb. 10	Feb. 9	Feb. 8	Feb. 7	Feb. 6	Feb. 5	Feb. 4	Feb. 3	Feb. 2	Feb. 1	Jan. 31	Jan. 30	Jan. 29	Jan. 28	Jan. 27	Jan. 26	Jan. 25	Jan. 24	Jan. 23	Jan. 22	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 16	Jan. 15	Jan. 14	Jan. 13	Jan. 12	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	Jan. 6	Jan. 5	Jan. 4	Jan. 3	Jan. 2	Jan. 1	Dec. 31	Dec. 30	Dec. 29	Dec. 28	Dec. 27	Dec. 26	Dec. 25	Dec. 24	Dec. 23	Dec. 22	Dec. 21	Dec. 20	Dec. 19	Dec. 18	Dec. 17	Dec. 16	Dec. 15	Dec. 14	Dec. 13	Dec. 12	Dec. 11	Dec. 10	Dec. 9	Dec. 8	Dec. 7	Dec. 6	Dec. 5	Dec. 4	Dec. 3	Dec. 2	Dec. 1	Nov. 30	Nov. 29	Nov. 28	Nov. 27	Nov. 26	Nov. 25	Nov. 24	Nov. 23	Nov. 22	Nov. 21	Nov. 20	Nov. 19	Nov. 18	Nov. 17	Nov. 16	Nov. 15	Nov. 14	Nov. 13	Nov. 12	Nov. 11	Nov. 10	Nov. 9	Nov. 8	Nov. 7	Nov. 6	Nov. 5	Nov. 4	Nov. 3	Nov. 2	Nov. 1	Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	Oct. 25	Oct. 24	Oct. 23	Oct. 22	Oct. 21	Oct. 20	Oct. 19	Oct. 18	Oct. 17	Oct. 16	Oct. 15	Oct. 14	Oct. 13	Oct. 12	Oct. 11	Oct. 10	Oct. 9	Oct. 8	Oct. 7	Oct. 6	Oct. 5	Oct. 4	Oct. 3	Oct. 2	Oct. 1	Sep. 30	Sep. 29	Sep. 28	Sep. 27	Sep. 26	Sep. 25	Sep. 24	Sep. 23	Sep. 22	Sep. 21	Sep. 20	Sep. 19	Sep. 18	Sep. 17	Sep. 16	Sep. 15	Sep. 14	Sep. 13	Sep. 12	Sep. 11	Sep. 10	Sep. 9	Sep. 8	Sep. 7	Sep. 6	Sep. 5	Sep. 4	Sep. 3	Sep. 2	Sep. 1	Aug. 31	Aug. 30	Aug. 29	Aug. 28	Aug. 27	Aug. 26	Aug. 25	Aug. 24	Aug. 23	Aug. 22	Aug. 21	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	Aug. 14	Aug. 13
--	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	-------	-------	-------	-------	-------	-------	-------	-------	-------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	-------	-------	-------	-------	-------	-------	-------	-------	-------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	-------	-------	-------	-------	-------	-------	-------	-------	-------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------



[illegible]

INSURANCE BASE RATES	
† Property Growth .....	7 1/2%
Cannon Assurance .....	4 1/2%
† Vanbrugh Guaranteed .....	7 1/25%
* Address shown under Insurance and Property Bond Table.	



## FT SHARE INFORMATION SERVICE

## ENGINEERING—Continued

65	Green's Econ.	74	.....	4.30	2.9	8.1
260	G.K.N. El.	279	+5	615.56	2.4	8.1
71	Habit Precision	77		23.0	0	31.2

[illegible]

SAF	110	155
ACB Research	155	155

[illegible]

48	M.L. Holdings	938	13.92	3.71	8.21
13	Nanpan Bronze	89	-2	1.88	8.80
91	Martoneir 20p	148	5.34	2.40	5.10

50	McNeelme Bros.	47	4.95	3.1	9
51	McNeelme Bros.	36	1.4	1.4	1
52	McNeelme Bros.	14	1.4	1.4	1
53	McNeelme Bros.	37	1.4	1.4	1
54	McNeelme Bros.	37	1.4	1.4	1
55	McNeelme Bros.	37	1.4	1.4	1
56	McNeelme Bros.	37	1.4	1.4	1
57	McNeelme Bros.	37	1.4	1.4	1
58	McNeelme Bros.	37	1.4	1.4	1
59	McNeelme Bros.	37	1.4	1.4	1
60	McNeelme Bros.	37	1.4	1.4	1
61	McNeelme Bros.	37	1.4	1.4	1
62	McNeelme Bros.	37	1.4	1.4	1
63	McNeelme Bros.	37	1.4	1.4	1
64	McNeelme Bros.	37	1.4	1.4	1
65	McNeelme Bros.	37	1.4	1.4	1
66	McNeelme Bros.	37	1.4	1.4	1
67	McNeelme Bros.	37	1.4	1.4	1
68	McNeelme Bros.	37	1.4	1.4	1
69	McNeelme Bros.	37	1.4	1.4	1
70	McNeelme Bros.	37	1.4	1.4	1
71	McNeelme Bros.	37	1.4	1.4	1
72	McNeelme Bros.	37	1.4	1.4	1
73	McNeelme Bros.	37	1.4	1.4	1
74	McNeelme Bros.	37	1.4	1.4	1
75	McNeelme Bros.	37	1.4	1.4	1
76	McNeelme Bros.	37	1.4	1.4	1
77	McNeelme Bros.	37	1.4	1.4	1
78	McNeelme Bros.	37	1.4	1.4	1
79	McNeelme Bros.	37	1.4	1.4	1
80	McNeelme Bros.	37	1.4	1.4	1
81	McNeelme Bros.	37	1.4	1.4	1
82	McNeelme Bros.	37	1.4	1.4	1
83	McNeelme Bros.	37	1.4	1.4	1
84	McNeelme Bros.	37	1.4	1.4	1
85	McNeelme Bros.	37	1.4	1.4	1
86	McNeelme Bros.	37	1.4	1.4	1
87	McNeelme Bros.	37	1.4	1.4	1
88	McNeelme Bros.	37	1.4	1.4	1
89	McNeelme Bros.	37	1.4	1.4	1
90	McNeelme Bros.	37	1.4	1.4	1
91	McNeelme Bros.	37	1.4	1.4	1
92	McNeelme Bros.	37	1.4	1.4	1
93	McNeelme Bros.	37	1.4	1.4	1
94	McNeelme Bros.	37	1.4	1.4	1
95	McNeelme Bros.	37	1.4	1.4	1
96	McNeelme Bros.	37	1.4	1.4	1
97	McNeelme Bros.	37	1.4	1.4	1
98	McNeelme Bros.	37	1.4	1.4	1
99	McNeelme Bros.	37	1.4	1.4	1
100	McNeelme Bros.	37	1.4	1.4	1

92	Pennad	10#	.....	—	—	—
51	Porter Chad. 20p.	108	.....	14.79	3.6	6.7
49	Pratt (B)	71	.....	4.81	6	10.7

46	Prines (Garcia)	74ml	53	55.20	23.10	1.00
47	Prines (Garcia)	5877g	55	55.20	23.10	1.00
48	B.C.F.	61g	56	55.20	23.10	1.00
49	Prines (Garcia)	61g	57	55.20	23.10	1.00
50	B.C.F.	61g	58	55.20	23.10	1.00
51	Prines (Garcia)	61g	59	55.20	23.10	1.00
52	Prines (Garcia)	61g	60	55.20	23.10	1.00
53	Prines (Garcia)	61g	61	55.20	23.10	1.00
54	Prines (Garcia)	61g	62	55.20	23.10	1.00
55	Prines (Garcia)	61g	63	55.20	23.10	1.00
56	Prines (Garcia)	61g	64	55.20	23.10	1.00
57	Prines (Garcia)	61g	65	55.20	23.10	1.00
58	Prines (Garcia)	61g	66	55.20	23.10	1.00
59	Prines (Garcia)	61g	67	55.20	23.10	1.00
60	Prines (Garcia)	61g	68	55.20	23.10	1.00
61	Prines (Garcia)	61g	69	55.20	23.10	1.00
62	Prines (Garcia)	61g	70	55.20	23.10	1.00
63	Prines (Garcia)	61g	71	55.20	23.10	1.00
64	Prines (Garcia)	61g	72	55.20	23.10	1.00
65	Prines (Garcia)	61g	73	55.20	23.10	1.00
66	Prines (Garcia)	61g	74	55.20	23.10	1.00
67	Prines (Garcia)	61g	75	55.20	23.10	1.00
68	Prines (Garcia)	61g	76	55.20	23.10	1.00
69	Prines (Garcia)	61g	77	55.20	23.10	1.00
70	Prines (Garcia)	61g	78	55.20	23.10	1.00
71	Prines (Garcia)	61g	79	55.20	23.10	1.00
72	Prines (Garcia)	61g	80	55.20	23.10	1.00
73	Prines (Garcia)	61g	81	55.20	23.10	1.00
74	Prines (Garcia)	61g	82	55.20	23.10	1.00
75	Prines (Garcia)	61g	83	55.20	23.10	1.00
76	Prines (Garcia)	61g	84	55.20	23.10	1.00
77	Prines (Garcia)	61g	85	55.20	23.10	1.00
78	Prines (Garcia)	61g	86	55.20	23.10	1.00
79	Prines (Garcia)	61g	87	55.20	23.10	1.00
80	Prines (Garcia)	61g	88	55.20	23.10	1.00
81	Prines (Garcia)	61g	89	55.20	23.10	1.00
82	Prines (Garcia)	61g	90	55.20	23.10	1.00
83	Prines (Garcia)	61g	91	55.20	23.10	1.00
84	Prines (Garcia)	61g	92	55.20	23.10	1.00
85	Prines (Garcia)	61g	93	55.20	23.10	1.00
86	Prines (Garcia)	61g	94	55.20	23.10	1.00
87	Prines (Garcia)	61g	95	55.20	23.10	1.00
88	Prines (Garcia)	61g	96	55.20	23.10	1.00
89	Prines (Garcia)	61g	97	55.20	23.10	1.00
90	Prines (Garcia)	61g	98	55.20	23.10	1.00
91	Prines (Garcia)	61g	99	55.20	23.10	1.00
92	Prines (Garcia)	61g	100	55.20	23.10	1.00

110	Spear & Jackson	114	69.37	15	12.5
27	Spencer Ck. 20p.	37	2.39	6	10.2
13		33	3.86	4	5.6

136	Spirax-Sauro	262	48.88	2.8	5.1
26	Spooner Inds	50	2.64	6	8.0
40	Starbrite 20p	66	3.48	3.8	8.8
162	Staveley Inds. £1	232	18.75	3.7	5.8
93	Stone Platt	108	13.28	4.8	4.6

45	Sykes (Henry).....	96	.....	b3.2	33	5.1
91	Tace 100.....	27	+2	1.25	4	7.0
36	Tender Collector.....	79	+6	14.47	25	8.6

4432	Tecalemit	107	g3.6	3.4	5.1
24	Tex Abras 10p	70	12.75	2.3	6.0
710	Thyssen Duro	840	+5	Q14%	6
10	Tomkins P.H. 5p	17 <sup>nd</sup>		9.96	3.1
50	Triplex Fries	76		14.21	3.0

310	Tube Investments Pl.	368	-2	120.95	3.0	8.6
25	Turner	62	.....	52.11	4.2	5.2
20	Tyack (W. A.) Ltd.	23	.....	1.28	3.2	8.4

[illegible]

40	Westland	45	+1	3.18	1.0	10.7
38	West'n-Brans 28p	80	.....	12.77	3.4	5.3
51	Whesoe	89	-1	4.6	3.9	7.9

8	Wheway Wm. 5p	17-2	+2	10.8	2.4	6.9
84	Whitehouse 5p	85		2.1	0	3.7
16	Williams (W)	24		1.01	4.0	6.0
35	Winn & James	57	-1	2.24	4.8	6.0
58	Wolf Eleot. Tools	145		1.73	7.7	1.8
93	Wolsky Hinges	188		6.70	3.2	5.4
14	Worrel Fay. 10p	18	-1/2	1.2	2.9	10.11
29	Wood S.W. 12op	36m		d3.87	24	16.3
26	Woolen 13sp	31-2		12.1	1.7	10.11
30	Young A.W. & Y	82		44.97	1.8	5.7

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher than the number of incorrect responses in all conditions.

FOOD, GROCERIES, ETC.							
64	Alpine Soft D 10p	116		16.5	4.1	8.5	
57	Ass. Biscuit 20p	72	+2	th 2.73	2.8	5.8	
47	Ass. Brit. F'dk 5p	57		12.1	4.6	5.6	
141	Ass. Dairies	218	-1	bo 78	19.4	0.5	
35	Ass. Fisheries	47		3.0	ph	9.7	

144	Avana Group Sp.	31 1/4	+1 1/4	+0.98	4.6	4.8
46	Banks (Sidney C.)	75	.....	+3.6	3.7	7.3
31	Barber & D. Inc.	131 1/2	+1 1/2			

140	Barr (A.G.)	200	6.46	4.0	4.9
65	Barrow Mfg...	88	Q13134	1.7	15.2
68	Bassett (Geo)	149	5.15	3.1	5.6
234	Batleys York 10p	53	703.31	1.9	5.5
38	Beaun 10p	63	h1.45	4.0	3.5
99	Bibby (J.)	208	-5	15.94	4.1
145	Bishop's Stores	170	702.36	8.5	2.1
55	Do. "A" N/V	135	702.36	8.5	2.6
60	Bluebird Coal	154	4.62	4.5	4.5
310	Brit Sugar L	440	19.0	6.3	6.3
7	Brit Sugar L 10p	281	100.47	4.5	2.8

38 $\frac{1}{2}$	Brooke Bond	45	-2 $\frac{1}{2}$	2.76	3.3	9.5
35 $\frac{1}{2}$	Cadoury Sclips	54		2.76	2.0	7.8

28	42	44	285	3.9	4.0
30	42	44	1.74	3.4	6.0
36	42	44	+1	1.7	3.4
37	42	44	1.57	1.5	7.4
51	42	44	1.57	1.5	7.4
91	42	44	1.57	1.5	7.4
57	42	44	1.57	1.5	7.4
6	42	44	1.57	1.5	7.4
22	42	44	1.57	1.5	7.4
45	42	44	1.57	1.5	7.4
63	42	44	1.57	1.5	7.4
47	42	44	1.57	1.5	7.4

13	Glass Glower Sp.	23	23	8.1
28	Goldrei Fowcard.	48	1d2.43	7.7
101		63	2.25	2.4

10-	Hayes v U.S. 20p	82	+2	53.05	1.74
40-	Whitehead & J. 50p	58	.....	74.06	2.81
89	Billards 10p	180m	-2	4.41	6.6
39	Benton (A.) 10p	69	.....	72.62	4.1
228p	Kraft 52.50	530p	+14	052.32	2.3
6112	Levi Save 10p	86	.....	h2.21	3.0
28	Lennons Gp. 10p	31	.....	dr1.5	2.0
100	Lockwood Hldgs	145	.....	h8.53	2.2
55	Linford	115	.....	3.69	4.5

14	Lovell (G. H.)	30	.....	—	—
74	Low (Wm.) 20p	108	.....	5.5	2.6 7.7
47	Lyons (J. E.)	97	-2	+7.69	1.4 12.0

58	Matthews (G)	122				18.38	4.10	13.3
58	West Trade Shop	86				1747.26	1.3	13.3
58	Shells (A.J.)	25				4.86	3.5	4.8
58	Perkins (A.J.)	25				1742.05	1.3	13.3
58	Northwestern	111				3.1	4.7	2.7
43	Nordlin P.J. Mop	4		+1		1741.58	4.7	2.7
43	Pomato (J. Dp)	22				11.55	2.1	10.3
174	Pork Pannos Mop	422		+5		1748.49	5.2	3.0
71	Fryke (W.J.) Mop	34				00.66	0.4	2.9
71	Rasmussen Greg.Mop	19						
71	Robertson Foudi	128		+12		1.28	0.8	17.4
71	Robertson Foudi	128		-7		15.2	3.2	12.2
71	Robertson M. Son	128		-7		17.42	4.8	12.2

133	Sainsbury (J.)	167	-3	145.47	3.9	5.0
32	Sompoortex	58		3.38	2.7	8.8
251	Smith	28		2.38	1.7	15.1

25	Sparrows	37	2	1.36	2.2	5.8
86	Squirrel W. 13p.	170	-10	3.52	6.9	5.8
88	Stocks (Joseph)	170		3.52	6.9	5.8
94	Tate & Lyle E	142nd		13.14	42.9	10.4
33	Taverner Aut. 20p	108		65.28	3.0	7.4
42	Teson 5p	392		71.48	3.0	5.7
131	Unitate	51m		73.1	2.1	9.2
36	United Biscuits	145	+1	65.38	3.0	5.6
118	Watson Pharm. 10p	57		2.43	2.9	6.5
	Wheatsheaf	118		47.3	3.6	9.5

...and the

## HOTELS AND CATERERS

12	Addict Int. 10p	36	100.51	-	21
5114	Bored (J) Pt. 100	512.2	102.45	29	125
70	Brent Walker 8p	52	7.7	124	33
70	City Nights 20p	56	33.7	128	62
82	De Vero 10p	153	144.26	4	1
82	Epicure 5p	104	100.33	63	42
82	Grand Mid. 8p	96	4.25	29	69
82/64	Id. 10p. City 8p	107.2	101.72	7	1
85	Kurumi (M) 25	84.2	104.04	10	72
79	Ladadrome 10p	180	67.1	33	59

Johnson & Barnes	81		12.00
Johnson Clark	83	+1	13.89

Johnson M. H. Jr.	447	112.38	1.9
Kalman (T.) M.	35	92.54	2.6
Kalman (T.) M.	291	1.95	1.1
Kelso Inds.	105	3.23	7.7
Kennedy S. H.	27	51.58	2.9
Kerns (A.) S.	110	15.9	1.2
Kilgus S. S. H.	66	3.82	4.3
C. F. H.	82	79.36	2.2



Stock	Price	Div	Yield	Div	Yield
Am. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Gen. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Met. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Prud. Ins. Co.	122.25	4.00	3.27	4.00	3.27
Sw. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Stock	Price	Div	Yield	Div	Yield
Am. Honda Motor Co.	122.25	4.00	3.27	4.00	3.27
Gen. Honda Motor Co.	122.25	4.00	3.27	4.00	3.27
Met. Honda Motor Co.	122.25	4.00	3.27	4.00	3.27
Prud. Honda Motor Co.	122.25	4.00	3.27	4.00	3.27
Sw. Honda Motor Co.	122.25	4.00	3.27	4.00	3.27

Commercial Vehicles

Stock	Price	Div	Yield	Div	Yield
Am. Commercial Vehicle Co.	122.25	4.00	3.27	4.00	3.27
Gen. Commercial Vehicle Co.	122.25	4.00	3.27	4.00	3.27
Met. Commercial Vehicle Co.	122.25	4.00	3.27	4.00	3.27
Prud. Commercial Vehicle Co.	122.25	4.00	3.27	4.00	3.27
Sw. Commercial Vehicle Co.	122.25	4.00	3.27	4.00	3.27

Components

Stock	Price	Div	Yield	Div	Yield
Am. Components Co.	122.25	4.00	3.27	4.00	3.27
Gen. Components Co.	122.25	4.00	3.27	4.00	3.27
Met. Components Co.	122.25	4.00	3.27	4.00	3.27
Prud. Components Co.	122.25	4.00	3.27	4.00	3.27
Sw. Components Co.	122.25	4.00	3.27	4.00	3.27

Garages and Distributors

Stock	Price	Div	Yield	Div	Yield
Am. Garage & Distributor Co.	122.25	4.00	3.27	4.00	3.27
Gen. Garage & Distributor Co.	122.25	4.00	3.27	4.00	3.27
Met. Garage & Distributor Co.	122.25	4.00	3.27	4.00	3.27
Prud. Garage & Distributor Co.	122.25	4.00	3.27	4.00	3.27
Sw. Garage & Distributor Co.	122.25	4.00	3.27	4.00	3.27

SHIPBUILDERS, REPAIRERS

Stock	Price	Div	Yield	Div	Yield
Am. Shipbuilder & Repairer Co.	122.25	4.00	3.27	4.00	3.27
Gen. Shipbuilder & Repairer Co.	122.25	4.00	3.27	4.00	3.27
Met. Shipbuilder & Repairer Co.	122.25	4.00	3.27	4.00	3.27
Prud. Shipbuilder & Repairer Co.	122.25	4.00	3.27	4.00	3.27
Sw. Shipbuilder & Repairer Co.	122.25	4.00	3.27	4.00	3.27

SHIPPING

Stock	Price	Div	Yield	Div	Yield
Am. Shipping Co.	122.25	4.00	3.27	4.00	3.27
Gen. Shipping Co.	122.25	4.00	3.27	4.00	3.27
Met. Shipping Co.	122.25	4.00	3.27	4.00	3.27
Prud. Shipping Co.	122.25	4.00	3.27	4.00	3.27
Sw. Shipping Co.	122.25	4.00	3.27	4.00	3.27

SHOES AND LEATHER

Stock	Price	Div	Yield	Div	Yield
Am. Shoe & Leather Co.	122.25	4.00	3.27	4.00	3.27
Gen. Shoe & Leather Co.	122.25	4.00	3.27	4.00	3.27
Met. Shoe & Leather Co.	122.25	4.00	3.27	4.00	3.27
Prud. Shoe & Leather Co.	122.25	4.00	3.27	4.00	3.27
Sw. Shoe & Leather Co.	122.25	4.00	3.27	4.00	3.27

SOUTH AFRICANS

Stock	Price	Div	Yield	Div	Yield
Am. South African Co.	122.25	4.00	3.27	4.00	3.27
Gen. South African Co.	122.25	4.00	3.27	4.00	3.27
Met. South African Co.	122.25	4.00	3.27	4.00	3.27
Prud. South African Co.	122.25	4.00	3.27	4.00	3.27
Sw. South African Co.	122.25	4.00	3.27	4.00	3.27

TEXTILES

Stock	Price	Div	Yield	Div	Yield
Am. Textile Co.	122.25	4.00	3.27	4.00	3.27
Gen. Textile Co.	122.25	4.00	3.27	4.00	3.27
Met. Textile Co.	122.25	4.00	3.27	4.00	3.27
Prud. Textile Co.	122.25	4.00	3.27	4.00	3.27
Sw. Textile Co.	122.25	4.00	3.27	4.00	3.27

PAPER/PRINTING

Stock	Price	Div	Yield	Div	Yield
Am. Paper & Printing Co.	122.25	4.00	3.27	4.00	3.27
Gen. Paper & Printing Co.	122.25	4.00	3.27	4.00	3.27
Met. Paper & Printing Co.	122.25	4.00	3.27	4.00	3.27
Prud. Paper & Printing Co.	122.25	4.00	3.27	4.00	3.27
Sw. Paper & Printing Co.	122.25	4.00	3.27	4.00	3.27

PROPERTY

Stock	Price	Div	Yield	Div	Yield
Am. Property Co.	122.25	4.00	3.27	4.00	3.27
Gen. Property Co.	122.25	4.00	3.27	4.00	3.27
Met. Property Co.	122.25	4.00	3.27	4.00	3.27
Prud. Property Co.	122.25	4.00	3.27	4.00	3.27
Sw. Property Co.	122.25	4.00	3.27	4.00	3.27

TOBACCO

Stock	Price	Div	Yield	Div	Yield
Am. Tobacco Co.	122.25	4.00	3.27	4.00	3.27
Gen. Tobacco Co.	122.25	4.00	3.27	4.00	3.27
Met. Tobacco Co.	122.25	4.00	3.27	4.00	3.27
Prud. Tobacco Co.	122.25	4.00	3.27	4.00	3.27
Sw. Tobacco Co.	122.25	4.00	3.27	4.00	3.27

TRUSTS, FINANCE, LAND

Stock	Price	Div	Yield	Div	Yield
Am. Trust, Finance & Land Co.	122.25	4.00	3.27	4.00	3.27
Gen. Trust, Finance & Land Co.	122.25	4.00	3.27	4.00	3.27
Met. Trust, Finance & Land Co.	122.25	4.00	3.27	4.00	3.27
Prud. Trust, Finance & Land Co.	122.25	4.00	3.27	4.00	3.27
Sw. Trust, Finance & Land Co.	122.25	4.00	3.27	4.00	3.27

INSURANCE

Stock	Price	Div	Yield	Div	Yield
Am. Insurance Co.	122.25	4.00	3.27	4.00	3.27
Gen. Insurance Co.	122.25	4.00	3.27	4.00	3.27
Met. Insurance Co.	122.25	4.00	3.27	4.00	3.27
Prud. Insurance Co.	122.25	4.00	3.27	4.00	3.27
Sw. Insurance Co.	122.25	4.00	3.27	4.00	3.27

Stock	Price	Div	Yield	Div	Yield
Am. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Gen. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Met. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Prud. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Sw. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27

Stock	Price	Div	Yield	Div	Yield
Am. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Gen. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Met. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Prud. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Sw. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27

Stock	Price	Div	Yield	Div	Yield
Am. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Gen. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Met. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Prud. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Sw. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27

Stock	Price	Div	Yield	Div	Yield
Am. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Gen. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Met. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Prud. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27
Sw. Life Ins. Co.	122.25	4.00	3.27	4.00	3.27

**YASUDA**  
TRUST AND BANKING  
London Branch: 01-628-5721  
Head Office: Tokyo

MINES—Continued

CENTRAL AFRICAN

Stock	Price	Div	Yield	Div	Yield
Am. Central African Co.	122.25	4.00	3.27	4.00	3.27
Gen. Central African Co.	122.25	4.00	3.27	4.00	3.27
Met. Central African Co.	122.25	4.00	3.27	4.00	3.27
Prud. Central African Co.	122.25	4.00	3.27	4.00	3.27
Sw. Central African Co.	122.25	4.00	3.27	4.00	3.27

AUSTRALIAN

Stock	Price	Div	Yield	Div	Yield
Am. Australian Co.	122.25	4.00	3.27	4.00	3.27
Gen. Australian Co.	122.25	4.00	3.27	4.00	3.27
Met. Australian Co.	122.25	4.00	3.27	4.00	3.27
Prud. Australian Co.	122.25	4.00	3.27	4.00	3.27
Sw. Australian Co.	122.25	4.00	3.27	4.00	3.27

TINS

Stock	Price	Div	Yield	Div	Yield
Am. Tins Co.	122.25	4.00	3.27	4.00	3.27
Gen. Tins Co.	122.25	4.00	3.27	4.00	3.27
Met. Tins Co.	122.25	4.00	3.27	4.00	3.27
Prud. Tins Co.	122.25	4.00	3.27	4.00	3.27
Sw. Tins Co.	122.25	4.00	3.27	4.00	3.27

COPPER

Stock	Price	Div	Yield	Div	Yield
Am. Copper Co.	122.25	4.00	3.27	4.00	3.27
Gen. Copper Co.	122.25	4.00	3.27	4.00	3.27
Met. Copper Co.	122.25	4.00	3.27	4.00	3.27
Prud. Copper Co.	122.25	4.00	3.27	4.00	3.27
Sw. Copper Co.	122.25	4.00	3.27	4.00	3.27

MISCELLANEOUS

Stock	Price	Div	Yield	Div	Yield
Am. Miscellaneous Co.	122.25	4.00	3.27	4.00	3.27
Gen. Miscellaneous Co.	122.25	4.00	3.27	4.00	3.27
Met. Miscellaneous Co.	122.25	4.00	3.27	4.00	3.27
Prud. Miscellaneous Co.	122.25	4.00	3.27	4.00	3.27
Sw. Miscellaneous Co.	122.25	4.00	3.27	4.00	3.27

NOTES

On balance, the market is expected to be steady. The main factors influencing the market are the interest rate, the inflation rate, and the exchange rate. The interest rate is expected to remain stable, the inflation rate is expected to rise, and the exchange rate is expected to fluctuate.

TEAS

Stock	Price	Div	Yield	Div	Yield
Am. Teas Co.	122.25	4.00	3.27	4.00	3.27
Gen. Teas Co.	122.25	4.00	3.27	4.00	3.27
Met. Teas Co.	122.25	4.00	3.27	4.00	3.27
Prud. Teas Co.	122.25	4.00	3.27	4.00	3.27
Sw. Teas Co.	122.25	4.00	3.27	4.00	3.27

India and Bangladesh

Stock	Price	Div	Yield	Div	Yield
Am. India & Bangladesh Co.	122.25	4.00	3.27	4.00	3.27
Gen. India & Bangladesh Co.	122.25	4.00	3.27	4.00	3.27
Met. India & Bangladesh Co.	122.25	4.00	3.27	4.00	3.27
Prud. India & Bangladesh Co.	122.25	4.00	3.27	4.00	3.27
Sw. India & Bangladesh Co.	122.25	4.00	3.27	4.00	3.27

Sri Lanka

Stock	Price	Div	Yield	Div	Yield
Am. Sri Lanka Co.	122.25	4.00	3.27	4.00	3.27
Gen. Sri Lanka Co.	122.25	4.00	3.27	4.00	3.27
Met. Sri Lanka Co.	122.25	4.00	3.27	4.00	3.27
Prud. Sri Lanka Co.	122.25	4.00	3.27	4.00	3.27
Sw. Sri Lanka Co.	122.25	4.00	3.27	4.00	3.27



**44**

**Skipton Society**  
stronghold for savers

Head Office: High Street Station  
BD23 1DN Tel: 0756 4581  
London Office: 81 High Holborn  
Tel: 01-242 5141  
Savings account £100 million

**Σ F in control**

powerful  
3 globe valve  
designs

**Masonell**

Masonell Ltd, Church House, Felt Road, Rotherham, S60 2JH

## Anger left and right at defence plans

By Michael Donne, Defence Correspondent

THE GOVERNMENT'S Defence White Paper was attacked from both sides of the Commons yesterday. From the Left wing of the Labour Party came calls for spending to be cut further, while the Conservatives claimed the White Paper contained distortions in its comparative assessments of NATO and Warsaw pact forces.

In particular, the Conservatives were angry at the inclusion of French forces in Western Germany and the eastern Atlantic in the assessment of NATO's strengths at a time when France is not militarily integrated with the alliance, although a member of it.

The White Paper, otherwise, contains no surprises. It points out that, as a result of previous reviews of defence spending, about £261m. is being cut out of the 1978-79 budget, mainly on the equipment side.

The budget for the coming year will be £6,919m. for 4.7 per cent. estimated gross domestic product. But, to meet NATO's insistence on the build-up of conventional forces to face a comparable Soviet build-up, spending by the U.K. will be raised by 3 per cent. in 1979-80, and by a further 3 per cent. in 1980-81. Beyond that, the White Paper is non-committal about future spending. "The 1981-82 figure is for the time being, simply a repeat of 1980-81," it says. "No decisions have been taken, since it will be necessary to take account of developments in arms control and defence as well as in the economy."

### The priority

Sir Ian Gilmour, shadow Defence Minister, said the White Paper was an exercise in distortion, because it played down the true gravity of the threat that NATO faced, and concealed the damage to the operational capability of Britain's armed forces which had resulted from the spending cuts of recent years.

It presented the planned level of spending for 1979 to 1980 as an increase, whereas in fact it was a cut in previously planned expenditure. "The Labour government gives truth an even lower priority than defence," he said.

The White Paper's comparison shows that in terms of soldiers, the NATO alliance, even including the French, is outnumbered in central Europe by 1.2 to 1 in main battle tanks by 2.7 to 1 in artillery by 2.5 to 1, and in fixed-wing tactical aircraft by 2.4 to 1. The paper makes no mention of future levels of forces' pay, which has been the subject of considerable concern in recent months. Mr. Mulley, Defence Secretary, explained this yesterday by saying the Government was waiting for the report from the armed forces pay review body, which is due by April 1.

"The only point I would make now is that whatever pay increase is decided on then will be added to the defence budget."

Dr. Josef Luns, Secretary-General of NATO, urged the Western allies last night to step up their defence spending, to fend off what he called a growing threat from the Soviet Union.

Dr. Luns in London at a meeting of the Europe Atlantic Group, said: "We must spend not what we want, but what we must." The Soviet Union and the Warsaw Pact forces had not only increased significantly, but had also made dramatic technological advances which could jeopardise the Western position. "Our highest priority must be to maintain sufficient military power to keep Soviet ambitions in check," he added.

Details, Page 2  
Editorial comment, Page 16

## Tension as Egypt and Cyprus meet after airport battle

By MICHAEL TINGAY

DR. BUTROS GHALI, Egypt's Minister of State for Foreign Affairs, held four hours of talks with President Spiros Kyprianou of Cyprus today to discuss the embittered relations between Cyprus and Egypt following last night's battle at Larnaca Airport in which 15 Egyptian commandos were killed and 16 injured.

Later reports said the Egyptian Cabinet is to withdraw Egypt's diplomatic mission in Cyprus and to ask Cypriot diplomats to leave Cairo. State television broadcasts said Egypt would review relations with the Cypriot Government. But there was no mention of a decision to break off diplomatic relations.

Dr. Ghali arrived at the British air force base at Akrotiri because Larnaca Airport remained closed while authorities cleared battle debris from the runway. He later flew back to Cairo with the bodies of the dead commandos as well as those injured and captured.

Mr. Christodoulos Veniamin, the Cypriot Minister of Defence, adopted a conciliatory line towards what Nicosia nevertheless considers a major violation of Cyprus's sovereignty when he announced earlier that the commandos and their arms and equipment would be returned "as if nothing has happened."

The Egyptian envoy avoided reporters' questions as he left the Presidential office. He merely said: "There will be further consultations on this tragic event."

Mr. Veniamin, who ordered the National Guard to intervene to stop the commando attack, also announced that President Kyprianou had asked Egypt to recall its military attaché. He emphasised repeatedly that the

Government had not authorised the Commando raid and the Egyptian action on Cyprus soil was in direct contravention of the wishes of the Government.

One of the delicate aspects of the affair which, in the opinion of observers here, may have encouraged the Egyptians to mount the raid was Nicosia's reputation for being "soft" on terrorists.

At a Press conference today Mr. Veniamin denied any recollection of a KLM hijacking incident two years ago in which two gunmen went free following their arrest in Cyprus.

In September 1976, a KLM plane, hijacked in Spain to back up Palestinian demands for the release of nine prisoners in Israel, including a member of the Japanese Red Army, ended up in Cyprus. Hostages were released and the two hijackers, a Palestinian and an Algerian, left

the island quietly, it is thought to Algeria.

Mr. Veniamin said: "To the best of my recollection, no such incident happened in Cyprus." But the incident is a matter of public knowledge as is the release of the kidnappers of President Kyprianou's son earlier this year. They were subsequently given safe passage out of Cyprus.

The two Palestinians who started the week-end drama were taken under strong police escort before the Nicosia district courts today and formally charged with the murder of Mr. Yusuf Sibat, the Egyptian newspaper editor and former Government Minister who was shot and killed in Nicosia's Hilton Hotel on Saturday.

The raid that went wrong.

Page 2

Editorial comment, Page 16

## Scots Nationalists pledge Assembly Bill support

By RAY PERMAN AND RICHARD EVANS

THE DEVOLUTION Bill's chances of surviving its Third Reading in the Commons tomorrow night were improved considerably yesterday when the Scottish National Party pledged its unconditional support.

The party's national executive and MPs, meeting in a Glasgow hotel, decided unanimously to continue backing the Bill, in spite of last week's Government defeats, which put conditions on the proposed referendum.

Mr. Donald Stewart, leader of the Parliamentary group, said afterwards that they would demand that the Prime Minister make the vote an issue of confidence to pull rebel backbenchers into line.

But he admitted that if Mr. Callaghan refused this, the 11 SNP MPs would still support the Bill.

There was widespread anger and resentment in Scotland at Westminster's fiddling, he added. It enabled people to show their contempt, the referendum and the Glasgow Garscadden by-election should be held as soon as possible.

### 'Raw deal'

"All of our members have been in their constituencies at the week-end, and the surprising thing is that people who are not SNP supporters have been saying that Scotland has had a raw deal."

Soundings taken by the party and the latest opinion poll showed that Scots had not lost their enthusiasm for devolution. Mr. Stewart added.

Some members of the party

said privately after the meeting that they would have liked their MPs to be mandated to vote against the Bill, but feared the reaction that would result in Scotland.

The best outcome for the Nationalists to-morrow night, they said, would be if the Bill was killed by a backlash of English Labour MPs. The SNP could then capitalise on this and on the Government's failure to reduce unemployment in Scotland at the next General Election.

Government Whips and Labour anti-devolutionists were both agreed yesterday that the Bill will comfortably survive its Third Reading hurdle before beginning its long haul through the Lords next month.

The decision of the SNP MPs to vote for a Third Reading, despite earlier threats to ditch the Bill and force an early General Election, means that the Tory role will be to expose the "limitations" of the legislation and to give MPs the opportunity to take a second look at aspects of the Bill when it returns to the Commons.

But any attempt to kill it off, or to hold it up unnecessarily, would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

### Determined

Conservative peers, with their huge built-in majority, are determined to start the debate on the Bill at length, though it is stressed that no attempt will be made to kill it off.

Nevertheless, they will have every excuse to debate in detail the 60 clauses out of 80 which were not discussed in the Commons because of the guillotine. The Tory role will be to expose the "limitations" of the legislation and to give MPs the opportunity to take a second look at aspects of the Bill when it returns to the Commons.

But any attempt to kill it off, or to hold it up unnecessarily, would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

But any attempt to kill it off, or to hold it up unnecessarily, would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

But any attempt to kill it off, or to hold it up unnecessarily, would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

But any attempt to kill it off, or to hold it up unnecessarily, would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

## January unit trust sales £36m.

By Adrienne Gleeson

Unit trust sales for January were well ahead of November and December, at £36.3m. In December the industry made gross sales of only £33.3m, while the figure in November was £35.4m.

Repurchases in January, however, were well up on the total for the two preceding months, at £19.1m., and net new investment was reduced from £20.3m. in December to £17.1m.

Average monthly repurchases during 1977 amounted to £21.3m., but this was very largely a reflection of the surge in repurchases during the early summer when many unit holders took advantage of a buoyant market to dispose of their holdings. Repurchases in December totalled only £13.0m. Average monthly net sales for the whole of 1977 amounted to £9.5m.

The total value of funds employed by the industry at end-January amounted to £3,366m., as against £3,466m. at end-December. Since the value of funds employed in part reflects the impact of market movements, this cannot in isolation be taken as any guide to the health of the industry.

However, the number of unit holders' accounts has also declined during the month from just under 2m. to 1.96m., as against 2.09m. at end-January 1977.

One additional unit trust, the Schlesinger Preference and Gift fund, was launched during January.

## Fair trading action on 50 more price-rings

By ELINOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

ANOTHER 50 unregistered price rings unlawfully operated in the road surfacing industry were placed on the Register of Restrictive Practices yesterday by the Office of Fair Trading.

The move follows the registration last week of 35 similar agreements operated by some of the same suppliers of blacktop. It is believed the number of price rings will eventually be 1,000, and new agreements are likely to appear on the register over the next months.

Under restrictive practices legislation it is unlawful for competitors to get together to fix prices without notifying the Office of the agreements.

Aggrieved customers—who are likely to be local authorities and the Department of Environment in the case of the blacktop companies—can sue for damages. There could also be criminal proceedings if the parties to the agreements had signed an undertaking saying that they had not colluded with their competitors when preparing the tenders.

The parties to the agreements registered were: Tarmac Roadstone Holdings, Clugston Slag, J. G. Eccles, Steelphalt, Thos. W. Ward (Roadstone), Tilling Construction Services, Wimpey Asphalt, Hovingham Stone, and Hargreaves Quarries.

## THE LEX COLUMN

# Replacement cost of a cuppa

Last year's big rise in the historical cost profits of tea blenders was justified by the need to finance the huge increases in raw material costs. In the case of Brooke Bond Liebig, for example, the cost of sales adjustment relating to the year to last June was a massive £41.8m., this, reflecting coffee as well as tea, compared with pre-tax profits on the historical cost basis of £48.8m. and "Hyde" profits were only £10.5m. The point had been recognised in the relaxations to the Price Code made in the summer of 1976.

But the other side to this coin is that when raw material prices collapse the cost of sales adjustment turns heavily positive, as it appears likely to do for Brooke Bond and the other big tea and coffee blenders like Lyons and Cadbury Schweppes in the current year. In these circumstances there is no reason why companies should not accept what might appear on a conventional accounting basis to be alarming price losses. This appears to have happened in the instant coffee market, but the charge of the Price Commission is that the tea blenders have been trying (successfully so far) to have it both ways.

The market has not, of course, been easy for the blenders to read. The Commission accepts in its report on tea prices that after profits more than doubled in the first half of 1977 there followed a dreadful third quarter when volume halved as stocks in the hands of distributors and housewives were used up. But for 1977 as a whole it estimates that profits were double 1976 levels.

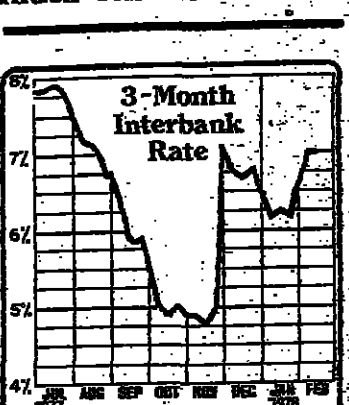
The Price Commission blunts its case, however, by analysing the industry only in terms of historical cost profits—though it gropes towards a current cost basis when it points out that the blenders moved from a cash deficit in the first half of 1977 to a surplus in the third quarter.

### Marchwiel Holdings

Marchwiel's near 25 per cent advance in full year pre-tax profits to £13.4m. is right in line with analysts' expectations. But what raised a few eyebrows yesterday was the sharpness of the fall in turnover in the second-half, and the profits mix.

To some extent the turnover fall of nearly a fifth to £88.8m. was to be expected and reflects the group's continued dependence on U.K. motorway con-

Index fell 1.3 to 458.0



tracts. Government cutbacks on road spending have been severe over the past two years; for the financial year beginning April 1977 some 23 per cent. was lopped off motorway spending.

So Marchwiel's latest gains owe much to the settlement of old contracts. Some two-fifths of the improvement meantime has come from a good performance in U.K. extraction and mining activities. Overseas results have been disappointing, however. Problems have arisen over payments for a pipeline contract in the Sudan. This, and high operating costs in the Middle East, have reduced overseas profits from £3.2m. to £1.8m.

Nonetheless, Marchwiel's cash balances have risen from £21m. to £35m., which represents nearly nine-tenths of the group's market capitalisation. At 240p the shares yield 2.2 per cent. covered a massive 14 times. But until the Sudanese dispute is sorted out, and the group succeeds in broadening the base of its U.K. order book the shares are likely to remain around present levels.

### Unhappy birthday

New York was on holiday yesterday celebrating George Washington's birthday. Here in Europe it was business as usual and the dollar took another buffeting on the foreign exchange markets. Less than a year ago the Swiss franc/dollar rate was Sw.Fr. 2.56; last night the dollar was being quoted at a new low of Sw.Fr. 1.82 and the Deutsche Mark was also trading at a new peak of DM2.0265. Meanwhile, the gold price celebrated the fresh bout of currency uncertainty by surging above the \$190 mark.

### Trafalgar House

Trafalgar House is a little away in its class and regular to its shareholders covering its recent profits. The proceeds of £4 are "substantially" greater book value—but the adjusted sheet shows that shareholders' funds are under after the deal at £135, right in line with last year's position.

However the latest figs struck after writing off goodwill of about £7m. to the Morgan-Granipracan. It also comes after a 10 per cent. drop in the price of the property sales, most of which Trafalgar will not be paying for years—if ever the property sales could

£15m. or more.

## Steel delays increase doubts over EEC protection plan

By JOHN LLOYD

DELAYS by the British Steel Corporation in supplying some types of steel have aggravated doubts among stockholders over the European Commission's plan to protect the European steel market.

The EEC scheme—the so-called Davidson Plan—requires stockholders to sign an agreement that they will not sell steel for less than the price of the most competitive domestic producer. The agreement is legally binding and there are stiff financial penalties for ignoring it. Stockholders are also being asked to sign a voluntary com-

mitment to buy 95 per cent. of their steel from domestic suppliers. It is this commitment which is causing most of the worry.

In the past few weeks, there has been an upsurge in demand for strip mill products, like hot-rolled and cold-rolled reduced steel, possibly because of a price surge expected in early April. BSC, which did not expect the upsurge, has had a number of problems in the delivery of these types of steel.

Stockholders point to these delays as an example of the disadvantages inherent in tying themselves to a monopoly supplier of strip-mill products. A speech last week by Sir Charles Villiers, the BSC chairman, has allayed some of their fears. Sir Charles said that if industrial action stopped

supplies, the Corporation would substitute imported steel.

At the same time, many stockholders concede that while they do not like the Davidson Plan, they see no practical alternative to it.

### Drug treatment trial to start

A FIVE-YEAR trial of drug treatment for mild hypertension, costing £1m., has just been approved by the Government. Professor Stanley Pearl of St. Mary's Hospital, Paddington, said yesterday. He told the Advanced Medicine Conference of the Royal College of Physicians it would be the largest drug trial undertaken in Britain.

## Continued from Page 1

# Reflation needed—Ministers

goal of economic and monetary union.

Mr. Healey termed them "fairly sensible," though West Germany warned that the Community should be careful it "did not die of thirst" on the way to monetary union.

The Ministers approved in principle the Community's plan to borrow up to 1bn. European units of account (more than £600m.) on the capital markets to lend on industrial, energy and infrastructure projects.

Mr. Healey said: "Ministers will want a say in how the money is lent," even though the European Investment Bank will manage the loan.

It also emerged from today's meeting that, apart from the senior French finance official, M. Jacques de la Rosiere, there is no other EEC candidate to replace the present IMF managing director, Dr. Johannes Witteveen, who retires this August.

M. de la Rosiere's only potential rival, Mr. Wim Duisenberg,

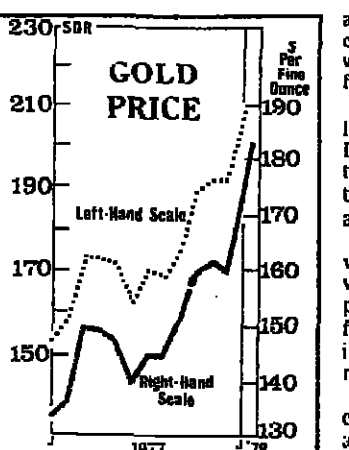
argued in Brussels that its depreciation had gone further than was justified on purely economic grounds.

The U.S. currency touched new lows against the West German D-Mark and the Swiss franc, and the central banks of both countries intervened to limit the appreciation of their currencies.

The weakness of the dollar was reflected in the gold market where, in moderate trading, the price reached its highest level for nearly three years, closing in London at \$182 1/2 an ounce, a rise of 33.

With New York markets closed, trading tended to be thin and the dollar ended in London at DM2.0265 against DM2.0817 on Friday, and fell to Sw.Fr.1.8185 compared with Sw.Fr.1.8380.

The pound was largely on the sidelines of the currency movements, gaining 95 points against the dollar at \$1.0545 but with its trade-weighted index unchanged at 65.9.



former Dutch Finance Minister, has dropped out. M. de la Rosiere, with apparent U.S. backing, seems certain to get the job.

Michael Blanden writes: The dollar came under renewed heavy pressure on the foreign exchange markets as Mr. Healey

## Continued from Page 1

# Tea

reference was made under the old system of price controls last March.

Yesterday, there were signs that supermarkets, if necessary, would repeat the tactics they used to persuade coffee processors to cut prices and refuse to buy new supplies until manufacturers cut prices. The only problem with this tactic is that retailers do not carry more than a few weeks' stock of tea.

The commission found that all sections of the tea trade increased profits as world tea prices went up. It estimated that aggregate profits of blenders more than doubled between 1976 and 1977.

### Dim view

The commission, which notes that tea may never be as cheap, even relatively, as it was before 1976, also seems to have taken a dim view of the way companies changed the method of calculating price increases for the purposes of price controls.

The blenders switched from using historical cost accounting to replacement cost accounting when the world price took off early last year.

Brooke Bond Oxo said the commission's suggestion that the tea market was not truly competitive was puzzling. Its prices had never fully reflected the peak in world tea prices and pointed out that since the commission completed its report in December, the world price had begun to move up again.

**Weather**

**U.K. TO-DAY**  
CLOUDY with snow in many places. Generally cold with frost.

London, Midlands, Wales, Isle of Man, N. Ireland  
Cloudy, snow at times. Max. 3C (37F).

S.E. England,  
Cent. Southern England  
Cloudy, snow at times, or rain. Max. 25/36F.

E. Anglia, E. England,  
N.W. England, Lake District.

**BUSINESS CENTRES**

City	Temp	Wind	Cloud
Aberdeen	21	W	100
Amst'dam	10	W	100
Albany	17	W	100
Bahra	22	W	100
Bombay	28	W	100
Buenos Aires	18	W	100
Calcutta	28	W	100
Cardiff	10	W	100
Cebu	28	W	100
Dublin	10	W	100
Edinburgh	10	W	100
Hong Kong	28	W	100
London	10	W	100
Lyons	10	W	100
Manila	28	W	100
Medan	28	W	100
Mumbai	28	W	100
Nairobi	28	W	100
Paris	10	W	100
Rangoon	28	W	100
Singapore	28	W	100
Tokyo	10	W	100
Yokohama	10	W	100

**HOLIDAY RESORTS**

City	Temp	Wind	Cloud
Abaco	28	W	100
Albany	17	W	100
Bahra	22	W	100
Bombay	28	W	100
Buenos Aires	18	W	100
Calcutta	28	W	100
Cardiff	10	W	100
Cebu	28	W	100
Dublin	10	W	100
Edinburgh	10	W	100
Hong Kong	28	W	100
London	10	W	100
Lyons	10	W	100
Manila	28	W	100
Medan	28	W	100
Mumbai	28	W	100
Nairobi	28	W	100
Paris	10	W	100
Rangoon	28	W	100
Singapore	28	W	100
Tokyo	10	W	100
Yokohama	10	W	100

**Purchasing Economics:**

A 5% reduction in material costs can create a profit increase equal to 25% more sales.

Purchasing Economics Limited is almost certainly the only organisation in the world totally dedicated to helping client companies increase profitability by improving their purchasing and materials management techniques.

PEL services are very comprehensive. They include Consultancy Services, Training Seminars, In-house Training facilities... all of them fully described in two booklets that are yours for the asking. Complete the coupon and we'll have copies with you by return.

Purchasing Economics Limited, 35 Station Square, Farnborough, Kent GU14 7JZ

Please send me details of PEL Services and Seminars

Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

**pe** Purchasing Economics Limited